

1005 O'BRIEN DRIVE AND 1320 WILLOW ROAD LIFE SCIENCES/RESEARCH AND DEVELOPMENT PROJECT

DRAFT ENVIROMENTAL IMPACT REPORT

SCH# 2023060072
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Public Review Draft EIR

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACC	Advanced Clean Cars
ACM	asbestos-containing material
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
ANSI	American National Standards Institute
APHIS	Animal and Plant Health Inspection Service
APN	Assessor's Parcel Number
ASTM	American Standards for Testing and Measurement
ATD	Airborne Transmissible Disease
ATPs-L	aerosol transmissible pathogens – laboratory
BAAD	Bay Area Air District
Bay	San Francisco Bay
BMBL	Biosafety in Microbiological and Biomedical Laboratories
BMP	best management practice
BMR	Below Market Rate
BSC	Biologic Safety Cabinets
BSL	Biosafety Levels
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CDC	Center for Disease Control and Prevention
CDPH	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CH ₄	Methane
City	City of Menlo Park
CLUP	Comprehensive Land Use Plan
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO ₂	Carbon Dioxide
CO	Carbon Monoxide
dB	decibels

ACRONYMS AND ABBREVIATIONS

dba	A-weighted sound level
DOF	California Department of Finance
DPM	Diesel Particulate Matter
DTSC	California Department of Toxic Substances and Control
EDD	California Employment Development Department
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
EV	Electric Vehicle
F	Fahrenheit
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FSAP	Federal Select Agent Program
GHG	greenhouse gas
gpd	gallons per day
GWP	Global Warming Potential
HAP	Hazardous Air Pollutant
HARP2	Hotspots Analysis and Reporting Program Version 2
HCD	California Department of Housing and Community Development
HCFCs	hydrochlorofluorocarbons
HFCs	hydrofluorocarbons
HRA	Health Risk Assessment
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
IPCC	Intergovernmental Panel on Climate Change
IQ	Intelligence Quotient
kBTU	thousand British thermal units
kW	kilowatts
kWh	kilowatt-hour
LBP	Lead-Based Paint
LEED	Leadership in Energy and Environmental Design
L _{eq}	equivalent sound level
LHMP	Local Hazard Mitigation Plan
LRA	Local Responsibility Area
LS	Life Science
LS-B	Life Sciences-Bonus Available
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MRP	Municipal Regional Stormwater Permit
MTC	Metropolitan Transportation Commission

ACRONYMS AND ABBREVIATIONS

MT CO ₂ e	metric tons of CO ₂ equivalent
MWMA	Medical Waste Management Act
MYs	Model Years
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NF ₃	nitrogen trifluoride
NIH	National Institutes of Health
N ₂ O	Nitrous oxide
NO ₂	Nitrogen Dioxide
NOP	Notice of Preparation
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
O ₃	Ozone
O	Office
O-B	Office-Bonus
OEHHA	California Office of Environmental Health Hazards Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCE	Peninsula Clean Energy Authority
PFCs	perfluorocarbons
PG&E	Pacific Gas and Electric Company
PM	Particulate Matter
ppm	parts per million
PPV	Peak Particle Velocities
Project, Proposed Project	1005 O'Brien Drive/1320 Willow Road Life Sciences/Research and Development Project
R&D	Research and Development
RHNA	Regional Housing Needs Allocation
RMS	Root Mean Squared
RMU	Residential Mixed-Use
ROG	reactive organic gas
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SLM	Sound Level Meter
SMCEHD	San Mateo County Environmental Health Department
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SO ₂	Sulfur Dioxide
SORE	small off-road engines
SPCC	spill prevention, control, and countermeasure

ACRONYMS AND ABBREVIATIONS

SR	State Route
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TDM	Transportation Demand Management
TNM	Traffic Noise Model
UNFCCC	United Nations Framework Convention on Climate Change
VMT	vehicle miles traveled
VOC	volatile organic compounds
ZEV	zero emission vehicle

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1 Executive Summary

1.1 Introduction

The California Environmental Quality Act (CEQA) requires local government agencies to consider the environmental consequences of projects over which they have discretionary approval authority before taking any action on such projects. An Environmental Impact Report (EIR) is a document designed to provide the public and local and state governmental agency decision makers an analysis of potential environmental consequences of a project to support informed decision making

The City of Menlo Park (City) prepared this Draft EIR to provide the public and responsible agencies information about the potential adverse impacts on the local and regional environment associated with implementation of the 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project). This Draft EIR was prepared pursuant to CEQA, which is codified at California Public Resources Code Section 21000 et seq., and the CEQA Guidelines in the California Code of Regulations, Title 14, Section 15000 et seq.

CEQA requires an EIR to contain a brief summary of a project and its environmental consequences. This chapter provides a summary of the Draft EIR for the Proposed Project. The summary must include each significant impact with proposed mitigation measures (MMs) and alternatives that would reduce or avoid that effect; areas of controversy known to the lead agency, including issues raised by agencies and the public; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects (CEQA Guidelines Section 15123). In accordance with these requirements, this chapter provides a summary of the Project and its impacts, lists MMs and alternatives, describes areas of known controversy, and discusses issues to be resolved.

Tarlton Properties, Inc. (Tarlton) has submitted an application to the City of Menlo Park (City) requesting approval of various discretionary entitlements in support of the Proposed Project. The Project would include demolition of three existing commercial and industrial buildings on the Project site and construction of two research and development (R&D) buildings, a parking garage, and open space/pedestrian areas. As discussed in Chapter 2, Introduction, the City is the lead agency with final decision making authority relative to the Proposed Project and certification of the EIR. The reasonably foreseeable and potentially significant adverse environmental effects of the Proposed Project are evaluated in this EIR. A detailed Project description is provided in Chapter 3, Project Description, in accordance with CEQA Guidelines Section 15124. This chapter includes an overview of the Project description, including the Project location, a statement of the Project objectives, and a general description of the Project's technical, economic, and environmental characteristics. This chapter also includes a description of the intended uses of this EIR, including a list of the agencies that are expected to use the EIR in their decision making; and a list of permits and other approvals required to implement the Project.

1.2 Project Location

The Proposed Project is located in the Bayfront Area of the City (as shown in Figure 3-1, Project Vicinity and Location). The City is located at the southern edge of San Mateo County and is generally bound by San

Francisco Bay to the north and east; the cities of East Palo Alto and Palo Alto and Stanford University to the southeast; and Atherton, Redwood City and unincorporated North Fair Oaks to the northwest. Under the City's 2016 General Plan update, referred to as ConnectMenlo, the Bayfront Area is the focus of future land use changes. The Bayfront Area is generally bound by San Francisco Bay to the north; Redwood City to the west; East Palo Alto to the southeast; and Bay Road and the Menlo Park neighborhoods of Belle Haven, Flood Triangle, Suburban Park, and Lorelei Manor to the south, as shown in Figure 3-1. The Bayfront Area has historically been developed with industrial, warehousing, and office uses.

The 4.22-acre Project site (Assessor's Parcel Numbers [APNs] 055-421-160, 055-421-050, and 055-421-060) is located at 1005 O'Brien Drive and 1320 Willow Road (as shown in Figure 3-2). The site is bound on the north by right-of-way for the Hetch-Hetchy water line and the Mid-Peninsula High School, Willow Road to the west, O'Brien Drive to the south and two adjoining properties on the east (1035 O'Brien Drive and 10 Kelly Court). Further, the site is located north of United States Route (U.S. Route) 101, south of Bayfront Expressway (State Route [SR] 84), and west of University Avenue (SR 109).

As shown in Figure 3-2, the Project site includes all of the three following contiguous parcels:

- APN 055-421-160 (1320 Willow Road) is 2.20 acres (95,832 square feet) located in the northwestern portion of the Project site and includes one building.
- APN 055-421-050 (985 O'Brien Drive) is 0.98 acre (42,565 square feet) located in the southwestern portion of the Project site and contains one building.
- APN 055-421-060 (1001 O'Brien Drive) is 1.02 acres (44,219 square feet) located in the southeastern portion of the Project site and contains one building.

In addition, approximately 1,230 square feet in the southwest corner of APN 055-421-190, which currently contains a portion of the surface parking lot for 1035 O'Brien Drive, would be added to the Project site while an equal area in the northeast corner of APN 055-421-060 would be added to the 1035 O'Brien Drive parcel, as shown in Figure 3-3. This land swap would be implemented through the City's approval pursuant to the Subdivision Map Act regulations.

The site is within the Federal Emergency Management Agency (FEMA) Zone AE (FEMA 2019), indicating it is likely to be subject to inundation during a 100-year flood.

Existing industrial and office uses surround the Project site to the south and east. Some of the existing industrial buildings are leased for non-industrial uses, such as a church located directly west of the Project site. The site is bounded on the north by right-of-way for the Hetch-Hetchy water line. Mid-Peninsula High School is located immediately north of the Hetch-Hetchy water line right-of-way and the high school uses the right-of-way for parking, open space, and athletic fields. Additional industrial and office buildings are located north of the school; this area is currently planned for redevelopment under the Willow Village Project, which would replace the existing industrial and office buildings with a town square district, a residential/shopping district, and a corporate campus district, including a maximum of 1,730 multi-family residential units. As shown on Figure 3-1, other schools in the vicinity include Belle Haven School to the west, Little Oak Preschool to the southwest, Costaño Elementary School to the northeast, Cesar Chavez Ravenswood Middle School to the southeast, and KIPP Valiant Community Preparatory School to the south.

Residential development is located west of the site, across Willow Road, as well as further south and east of the Project site (beyond intervening industrial/office uses).

1.3 Project Objectives

CEQA requires an EIR to include a statement of objectives for the Proposed Project, including the underlying purpose of the Project. As noted in the CEQA Guidelines, these objectives help the lead agency to determine which Project alternatives to evaluate in the EIR (Guidelines 15124(b)). The overarching intent of the proposed Project is to deliver new R&D buildings that would support life science and R&D tenants within the Bayfront Area of the City, consistent with the General Plan and zoning, in addition to providing publicly accessible open space uses. The primary objectives sought by the Project are as follows:

- To build new cutting-edge R&D buildings that will cater to the Bay Area and Stanford entrepreneurial community, as well as life sciences companies both regionally and nationally, by providing space for reliable laboratory and research uses, with accessory office areas and tenant amenities such as private outdoor areas.
- To develop an environmentally sustainable, high-quality aesthetic facility with the flexibility to accommodate a single R&D tenant or meet the needs of multiple tenants.
- To create a Project that grows a broad socioeconomic base of jobs as well as a business-to business tax base for the City of Menlo Park.
- To develop space that will accommodate R&D employees and jobs in the new Life Sciences district.
- To provide or pay in-lieu fees to fund community amenities for surrounding neighborhoods consistent with ConnectMenlo goals and policies.
- To achieve Leadership in Energy and Environmental Design (LEED) Gold and Silver certifications or equivalent.
- To enhance public accessibility from O'Brien Drive and Willow Road to potential future public open spaces along the Hetch Hetchy right-of-way, while also providing private (non-public) open space opportunities onsite.

1.4 Project Description

Project Summary

The Proposed Project would include the demolition of existing onsite buildings (a total of approximately 90,631 square feet), construction of two R&D buildings totaling approximately 228,398 square feet, construction of a 7-level parking structure with approximately 172,800 square feet, and development of open space, landscaping, and a sports court.

Phase 1 of this Project would involve the demolition of the existing buildings at 985 O'Brien Drive and 1001 O'Brien Drive (total 40,586 square feet) and the eastern portion of the existing building at 1320 Willow Road (approximately 24,032 square feet). The remaining western portion would be removed during Phase 2 of the Project and would remain in use until then. During Phase 1, it is anticipated that the current tenant in the western side of 1320 Willow Road would continue operations. Subject to City approval pursuant to the Subdivision Map Act regulations, the existing three parcels would be merged to create two parcels and

the boundary along the southeastern portion of the Project site would be relocated to align the property line perpendicular to O'Brien Drive, as shown in Figure 3-3. This would involve swapping 1,230 square feet of land between APN 055-421-190 and APN 055-421-060.

As shown in Figure 3-5, construction would include a new building at 1005 O'Brien Drive that would consist of 154,581 square feet in five stories and a new building at 1320 Willow Road that would consist of 73,817 square feet in four stories. A 200-square-foot chemical storage enclosure and an emergency generator enclosure would be provided for each building. The buildings would include 30 to 45 percent office space and 55 to 70 percent laboratory space. Construction also includes a seven-level parking garage to accommodate vehicles for onsite users, totaling 172,800 square feet. Under Phase 1, the first five levels of the garage would be constructed, with parking available on levels 1 through 4, providing 305 parking spaces, 49 of which would include electric vehicle (EV) charging stations, and an additional 98 would be "EV Ready," meaning conduit would be installed below the parking space surface to support future installation of additional EV charging stations. Under Phase 2, the remaining two garage levels would be constructed to provide an additional 192 parking spaces, of which 29 would include EV charging stations and 59 would be EV Ready. In total, the seven levels in the parking garage would provide 497 parking spaces, 78 of which would include EV charging stations and 157 of which would be "EV Ready." The Project would also include 23 surface parking spaces, 20 of which would be provided in Phase 1.

The Project also proposes to remove 13 existing site trees, 9 of which are identified as heritage trees as defined in Menlo Park Municipal Code Chapter 13.24, Heritage Trees. The Project would also remove two non-heritage trees from the adjacent parcel to accommodate changes in vehicular circulation and surface parking in the area of the proposed land swap with the neighboring parcel. The Project would also include development of approximately 59,344 square feet of open space, approximately 31,535 square feet of which would be publicly accessible. Landscaping would include planting 145 new trees, 100 of which would be planted during Phase 1 and the remaining 45 would be planted during Phase 2. The open space would be situated along the northern and southern border of the site as well as the central portion of the site and would include the following components:

- meandering pedestrian paths/walkways,
- a main entry plaza,
- bioretention areas for stormwater,
- public gathering space,
- public seating and gathering areas,
- picnic and bistro tables,
- a sports court,
- outdoor terrace and activity space, and
- flex turf space (with emergency access).

Project Construction

If approved, construction of Phase 1 of the Project is anticipated to begin immediately after Project approval and would last approximately 21 months. Phase 2 is anticipated to begin after the completion of Phase 1. However, an existing business would continue to occupy 1320 Willow Road for the duration of Phase 1 and

could remain in place through 2034. Phase 2 could therefore begin as late as 2034. Phase 2 construction would occur over a duration of 15 months.

In Phase 1, building demolition is expected to require approximately 30 work days, followed by 10 days of site preparation (e.g., clearing and grubbing), then 30 days of grading, and 300 days of building construction. This phase would be completed with paving and application of architectural coatings requiring 20 days.

Under Phase 2, demolition of the remaining portion of the building on Willow Road is expected to require approximately 20 days, followed by 5 days of site preparation and 20 days of grading. Construction of the new Willow Road building and two additional levels of the parking garage would require 230 days. The first four levels of the garage would remain available for tenant and visitor use during Phase 2 construction. The surface parking lot and vehicle drive aisles would be resurfaced, requiring 15 days. Application of architectural coatings would require 15 days.

Construction staging would take place within the confines of each respective component; however, if a portion of the Project is not under construction, that component would be used for staging, which would include material and equipment storage, and construction trailer parking.

Construction fencing would be installed around the perimeter of each phase during its construction to prevent pedestrian and non-construction-related vehicle access. As aspects of the Project are completed, the construction fencing may be reduced to encompass only the parts of the site that remain under construction.

1.5 Discretionary Actions and Use of This EIR

City Approvals

As lead agency for consideration of the Proposed Project, the City would be responsible for many of the approvals required for Project development.

The Project would require the following City discretionary approvals:

- **Use Permit.** Use permit for bonus-level development, per Menlo Park Municipal Code Chapter 16.82, and for the use and storage of hazardous materials for two diesel generators.
- **Architectural Control.** Per Menlo Park Municipal Code Chapter 16.68, architectural control review and approval of the specific building design.
- **Vesting Tentative Map and Lot Line Adjustment.** Pursuant to the Subdivision Map Act regulations, the existing three parcels would be merged and resubdivided into two parcels for the two Project phases, and the boundary along the southeastern portion of the Project site would be relocated to align the property line perpendicular to O'Brien Drive.
- **Development Agreement.** The City and Project sponsor may enter into a Development Agreement to allow for vested rights in exchange for negotiated community benefits beyond the minimum required community amenity value and City requirements.
- **Heritage Tree Removal Permit.** A tree removal permit would be required for each heritage tree proposed for removal, per Menlo Park Municipal Code Section 13.24.040.

- **Community Amenity Approval.** Planning Commission approval of the proposed community amenity in-lieu fee payment as required by Menlo Park Municipal Code Section 16.44.070 to allow for bonus-level development within the LS-B zoning district.
- **Below-Market-Rate Housing In-Lieu Fee Approval.** Planning Commission approval of payment of the Below-Market-Rate Housing Program in-lieu fees per Menlo Park Municipal Code Section 16.96.03.
- **Environmental Review.** Certification of the focused EIR, with approval of a Mitigation Monitoring and Reporting Program (MMRP) and adoption of a Statement of Overriding Considerations to address significant impacts that cannot be mitigated to less-than-significant levels.

Responsible, Trustee, and Reviewing Agencies

Section 21104 of the California Public Resources Code requires that all EIRs be reviewed by state responsible and trustee agencies (see also 14 CCR 15082 and 15086[a]). As defined by CEQA Guidelines Section 15381, “the term ‘Responsible Agency’ includes all public agencies other than the Lead Agency which have discretionary approval power over the project.” A trustee agency is defined in CEQA Guidelines Section 15386 as “a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. As of the date of this Draft EIR the City has determined that the Proposed Project would have no effects on resources within the jurisdiction of any trustee agencies thus no discretionary approval authority by trustee agencies has been identified for the Project.

This EIR may be used by other agencies and service districts that have some approval authority over the Proposed Project (i.e., to issue a permit). The Project sponsor would obtain all permits, as required by law. The following list identifies the other agencies and service districts identified to date that may have discretionary approvals and would rely on this EIR when considering the Proposed Project and the general review and approval responsibilities for each entity.

- Bay Area Air District: Permit for asbestos removal during demolition; permit for on-site generators;
- California Department of Transportation: Review of traffic circulation effects and consultation on potential traffic improvements that may affect state highway facilities, ramps, and intersections;
- California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program: Approval of National Pollutant Discharge Elimination System permit for stormwater discharge;
- City/County Association of Governments of San Mateo County: Review of potential effects on Routes of Regional Significance;
- Menlo Park Fire Protection District: Site Plan Review;
- Menlo Park Municipal Water: Approval of water hookups;
- PG&E: Approval of electric/natural gas improvements and connection permits;
- San Francisco Public Utilities Commission: Approval for encroachment into Hetch Hetchy aqueduct right-of-way, if necessary based on final Project design and construction plans; no such encroachment is currently anticipated;
- San Mateo County Environmental Health Services Division: Review of on-site generators; permitting under the Medical Waste Management Act;
- San Mateo County Transportation Authority: Review of potential effects on public transit;

- San Mateo County Water Pollution Prevention Program: C.3 and C.6 Development Review Checklist; and
- West Bay Sanitary District: Approval of wastewater hookups.

1.6 CEQA Process

This EIR is a Focused EIR that tiers from the analysis in the EIR certified in 2016 for the City's General Plan and M-2 Area Zoning Update project, referred to as ConnectMenlo, and the Supplemental EIR certified in 2023 for the City's Housing Element Update.

ConnectMenlo EIR

The Project site is within the ConnectMenlo study area. ConnectMenlo, which updated the City's General Plan Land Use and Circulation Elements and rezoned land in the Bayfront Area, serves as the City's comprehensive and long-range guide to land use and infrastructure development. ConnectMenlo's Land Use Element increased allowable new development potential in the Bayfront Area by 2.3 million square feet for non-residential uses (for a total of up to 3.7 million square feet), by 4,500 residential units (for a total of up to 4,650 units), and by up to 400 hotel rooms in the Bayfront Area.

Because the City General Plan is a long-range planning document, the ConnectMenlo EIR was prepared as a Program EIR, pursuant to CEQA Guidelines Section 15168. Once a Program EIR has been certified, subsequent activities within the program must be evaluated to determine whether additional CEQA review is needed. If the Program EIR addresses a program's effects in adequate detail, subsequent activities could be found to be within the Program EIR's scope, and additional environmental review may not be required, unless one of the thresholds for subsequent environmental review is met (CEQA Guidelines Section 15168[c]). When a Program EIR is relied on for subsequent activities, the lead agency must incorporate feasible MMs from the Program EIR into subsequent activities (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects that are not within the scope of a Program EIR, the lead agency must prepare a new Initial Study, leading to a negative declaration, a mitigated negative declaration, or an EIR (CEQA Guidelines Section 15168[c][1]). Because the Proposed Project's location and development parameters are consistent with ConnectMenlo, the ConnectMenlo Program EIR serves as the environmental analysis for some of the effects of the Proposed Project (e.g., is incorporated by reference, pursuant to Sections 15150, 15130, and 15183).

On December 29, 2016, the City of East Palo Alto filed a lawsuit challenging certification of the ConnectMenlo Final EIR. The City of East Palo Alto alleged that the City of Menlo Park did not comply with CEQA because the EIR underestimated the amount of new employment and failed to adequately analyze the traffic impacts that would result from the development under ConnectMenlo. To resolve litigation, the City of Menlo Park and the City of East Palo Alto entered into a settlement agreement. The key terms of the settlement agreement are as follows:

- *Reciprocal Environmental Review for Future Development Projects.* Menlo Park will prepare an EIR for any project located in the Office (O), Life Science (LS), or Residential Mixed-Use (RMU) district that exceeds 250,000 net new square feet and requires a use permit, that proposes bonus-level development, that proposes a master plan project, or that may have a significant environmental impact. Menlo Park may, with the exception of housing and traffic (which were the focus of East

Palo Alto's challenge), simplify the environmental review for future development projects by incorporating analysis and discussions from the ConnectMenlo Final EIR, pursuant to CEQA Guidelines Section 15168(d). East Palo Alto will prepare an Initial Study for future development projects in that city to determine the appropriate level of environmental review and will conduct that review, which can be simplified by incorporating by reference analysis and discussions from its general plan, referred to as Vista 2035.

- *Reciprocal Traffic Studies.* Menlo Park and East Palo Alto will work together to ensure that future development projects' potentially significant traffic impacts on the other jurisdiction are analyzed and mitigated.
- *Reciprocal Study of Multiplier Effect.* When the preparation of an EIR is required, as described above, Menlo Park or East Palo Alto, as applicable, will conduct a Housing Needs Assessment, which, to the extent possible, will include an analysis of the multiplier effect for indirect and induced employment.

This EIR and the Initial Study (Appendix G2) were prepared in accordance with the terms of the settlement agreement, which allows simplification in accordance with CEQA Guidelines Section 15168 for all topic areas, except housing and transportation, and incorporates by reference the information contained in the ConnectMenlo Final EIR, as applicable.

Housing Element Update Supplemental EIR

In January 2023, the City adopted the 2023-2031 Housing Element Update and certified a Supplemental EIR addressing those updates. As required by State law, the Housing Element Update addresses current and near-term future housing needs in Menlo Park and provides a framework for the community's longer-term approach to address housing needs. As the Housing Element is a component of the General Plan, the City prepared a Supplemental EIR that tiers from the ConnectMenlo EIR to evaluate the potential physical environmental effects of the Housing Element Update project and determine whether the Housing Element Update would result in any new or more severe impacts than were identified in the ConnectMenlo EIR. During preparation of the Housing Element Update Supplemental EIR, the City revised several of the ConnectMenlo EIR MMs. Where the Housing Element Supplemental EIR analysis and MMs are applicable to the Proposed Project, the environmental review for this Project also incorporates by reference the Housing Element Update Supplemental EIR and applies the Housing Element Update Supplemental EIR MMs to this Project.

Tiered Analysis

Section 15168(d) of the CEQA Guidelines provides for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]). By tiering from the ConnectMenlo EIR and the Housing Element Update Supplemental EIR, the environmental analysis for this Proposed Project relies on the ConnectMenlo EIR and Housing Element Update Supplemental EIR for the following:

- A discussion of general background and setting information for environmental topic areas,

- Overall growth-related issues,
- Issues that were evaluated in detail in the ConnectMenlo EIR and/or Housing Element Update Supplemental EIR for which there is no significant new information or change in circumstances that would require further analysis,
- An assessment of cumulative impacts, and
- Incorporation of MMs adopted by the ConnectMenlo EIR and Housing Element Update Supplemental EIR.

Per CEQA Guidelines Section 15168, later activities occurring under a Program EIR may be examined in light of the Program EIR and any additional CEQA analysis may tier from the Program EIR, as provided for in CEQA Guidelines Section 15152. Per CEQA Guidelines Section 15152, “where an EIR has been prepared and certified for a program [...] consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program [...] should limit the EIR [...] on the later project to effects that:

1. Were not examined as significant effects on the environment in the prior EIR, or
2. Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.”

The analysis provided in this EIR and the Initial Study tier from the ConnectMenlo Final EIR and Housing Element Update Supplemental Final EIR, as appropriate and further described in each topical section.

The Proposed Project would be required to comply with all applicable MMs identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP) and the Housing Element Update Supplemental EIR MMRP, which are existing and enforceable MMRPs and are a requirement of any proposed development project in the City. Applicable MMs identified in the Initial Study are provided in Table 1-1 and MMs identified in the EIR are provided in Table 1-2, in section 1.9. For a complete description of potential impacts identified in the Initial Study, please refer to the specific discussion within each topical section of the Initial Study (Appendix G2).

Focused EIR

To begin the CEQA compliance process for the Project, an Initial Study was prepared that evaluates a range of the Project’s potential environmental effects. For some such effects, the Initial Study identifies MMs that would avoid the effect or reduce it to a less than significant level. The City issued a Notice of Preparation (NOP) of this EIR that summarized the findings of the Initial Study, informed other agencies and the public of the decision to undertake preparation of an EIR, and described the anticipated scope of the EIR. Based on the findings in the Initial Study, this Focused EIR was prepared for impacts that need further discussion and/or mitigation beyond that provided in the ConnectMenlo EIR, the Housing Element Subsequent EIR, and the Project’s Initial Study. The City will serve as the lead agency with final decision-making authority relative to the Proposed Project and certification of this EIR.

The NOP and Initial Study for this EIR were released on June 2, 2023, for a 30-day public review period. A public scoping meeting was held before the City’s Planning Commission on June 26, 2023. The NOP noted that the Proposed Project may have a significant effect on the environment and that a focused EIR would

be prepared for the Proposed Project. The NOP is provided in Appendix G1 of this Draft EIR and the Initial Study is provided in Appendix G2.

The NOP was sent to individuals, local interest groups, adjacent property owners, trustee agencies, and responsible state and local agencies that have jurisdiction over or interest in environmental resources and/or conditions in the vicinity of the Project site. The purpose of the NOP was to allow various private and public entities to transmit their concerns and comments on the scope and content of the Draft EIR, focusing on specific information related to each individual's or group's interest or agency's statutory responsibility early in the environmental review process.

In response to the NOP, letters were received from the following agencies:

- Caltrans,
- Native American Heritage Commission. and
- San Francisco Public Utilities Commission (SFPUC).

A summary of the NOP comments received from these agencies as well as members of the public is presented in Section 1.8. Copies of the NOP comment letters and the comments recorded at the Planning Commission hearing are included in Appendix G3 of this Draft EIR.

1.7 Alternatives to the Project

Section 15126.6(a) of the CEQA Guidelines states that an EIR shall describe “a range of reasonable 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,” as well as provide an evaluation of “the comparative merits of the alternatives.” Under CEQA Guidelines Section 15126.6(a), an EIR does not need to consider alternatives that are not feasible, nor does it need to address every conceivable alternative to the project. The range of alternatives “is governed by the ‘rule of reason’ that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice” (14 CCR 15126.6[f]).

No Project Alternative

This alternative assumes the Project site would not be redeveloped and would remain in its current condition. The existing office, R&D and warehouse/storage buildings would remain untouched and new R&D buildings would not be constructed

Base Level Development Alternative

The Base-level Development Alternative would develop the Project site at the maximum level allowed by the base-level development standards for the Life Sciences zone district. This alternative would include demolition of existing buildings, and construction of two R&D buildings at the base level building height and Floor Area Ratio (FAR) of 55%. This alternative would support a total of approximately 100,439 square feet of building space in two 2-story buildings approximately 35 feet in height, with additional height for stairs, elevators, and rooftop equipment screening. Each of the R&D buildings would have an accessory structure for chemical storage consisting of approximately 180 square feet.

Using the same parking ratio as the Proposed Project of one space for every 439 square feet of space within the R&D buildings, this alternative would include 229 parking spaces. The parking structure would have the same footprint as the Proposed Project (27,900 square feet) and would contain three levels of parking with a total of approximately 213 parking spaces. There would also be approximately 16 surface parking spaces (compared to the 23 surface parking spaces in the Proposed Project). With the slight reductions in the R&D building footprints and surface parking, this alternative would include slightly more open space than the Proposed Project with approximately 62,079 square feet of open space.

Midrange Development Alternative

This Alternative would develop the Project site with an FAR of 90%, which is midway between the maximum base level FAR of 55% and the proposed FAR of 125%, resulting in development of approximately 164,354 square feet. The 1005 O'Brien Drive building would have a total floor area of approximately 99,705 square feet in four stories with a height of 51 feet (not including rooftop stair and elevator towers and mechanical equipment screening) over approximately half of the building and a height of 68 feet over the other half of the building. The building at 1320 Willow Road would have a total floor area of 62,245 square feet in three stories with a height of 51 feet. Each of the R&D buildings would have an accessory structure for chemical storage consisting of approximately 200 square feet.

Using the same parking ratio as the Proposed Project, this alternative would include 374 parking spaces including 351 spaces within the garage and 23 surface spaces. The parking structure would have the same footprint as the Proposed Project (27,900 square feet). With the footprint of each R&D building and the parking structure being generally the same as under the Proposed Project, this alternative would include the same amount of open space as the Proposed Project, which is 59,344 square feet.

Environmentally Superior Alternative

The No Project Alternative would result in the least environmental impacts and would be the environmentally superior alternative because it would reduce most of the significant and potentially significant impacts associated with the Proposed Project. However, the No Project Alternative would continue to include natural gas appliances and plumbing and thus would not eliminate the Project's Significant and Unavoidable greenhouse gas impacts.

Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Thus, the environmentally superior alternative is the Base Level Development Alternative because it would provide a greater reduction in significant and potentially significant impacts than the Midrange Development Alternative could accomplish.

1.8 Areas of Controversy/Issues to Be Resolved

The scope of this Draft EIR includes the potential environmental impacts identified in the Initial Study and NOP that was available for public review from June 2, 2023 through July 5, 2023; comments received during a virtual public scoping meeting held on June 26, 2023 and agency and public written comments received in response to the NOP. The NOP noted that the Proposed Project may have a significant effect on the environment in several environmental resource areas and that a Focused EIR would be prepared. The

NOP is provided in Appendix G1 of this Draft EIR and the Initial Study is provided in Appendix G2. The NOP comments from other agencies and the public raised areas of potential controversy and issues to be resolved as part of the City's consideration of the Proposed Project. The following list summarizes the environmental concerns raised in the NOP comments and the EIR or Initial Study section in which those concerns are addressed.

- **Air Quality:** Potential air quality and odor effects to Mid-Peninsula High School. Refer to EIR Section 4.1.
- **Greenhouse Gas Emissions:** Potential effects related to the Project's use of natural gas relative to the City's Climate Action Plan goals. Refer to EIR Section 4.2.
- **Hazards and Hazardous Materials:** BioSafety levels associated with the proposed life sciences/R&D uses; need for secondary containment around chemical storage areas; and consideration of environmental risks associated with the Project site's moderate liquefaction susceptibility and location within a FEMA flood zone. Refer to Initial Study Section 3.9 regarding liquefaction and flooding and EIR Section 4.3 regarding hazards associated with life sciences/R&D uses.
- **Hydrology and Water Quality:** Preventing drainage from flowing into the SFPUC right-of-way. Refer to Initial Study Section 3.10.
- **Noise:** Potential noise impacts to Mid-Peninsula High School. Refer to EIR Section 4.4.
- **Transportation:** Potential effects on traffic operations, travel demands, vehicle miles traveled, traffic signals, transportation impact fees, public transit, pedestrian and bicycle facilities, construction impacts, equitable access, encroachment permits, transportation demand management, and access to Mid-Peninsula High School. Refer to EIR Section 4.6.
- **Tribal Cultural Resources:** Potential impacts on tribal cultural resources and adherence to tribal consultation requirements. Refer to EIR Section 4.7.
- **Utilities and Service Systems:** Requirements for the Project to prevent encroachment of construction vehicles, equipment, and materials onto the SFPUC right-of-way and water supply. Refer to Initial Study Section 3.19.
- **Alternatives:** Eliminating the use of fossil fuels and reducing the amount of parking provided onsite. Refer to EIR Chapter 7.

1.9 Summary of Impacts

The environmental impacts analysis presented in the Initial Study and this EIR are summarized in Tables 1-1 and 1-2. Table 1-1 identifies environmental resource topics considered in the Initial Study that did not warrant evaluation in the Draft EIR. Table 1-1 identifies each environmental impact, any applicable MMs, and the level significance of that impact. Table 1-2 summarizes the findings of the environmental analysis presented in

Chapter 4 by identifying each environmental impact evaluated in this Draft EIR, the level of significance without mitigation, the recommended MMs, and the level of significance with implementation of MMs.

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
<i>Aesthetics</i>		
Impact I(a): Would the Project have a substantial adverse effect on a scenic vista?	None Required	No Impact
Impact I(b): Would the Project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	None Required	No Impact
Impact I(c): In non-urbanized areas, would the Project 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 point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	None Required	No Impact
Impact I(d): Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	None Required	Less Than Significant
<i>Agriculture and Forestry Resources</i>		
Impact II(a): Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	None Required	No Impact
Impact II(b): Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?	None Required	No Impact
Impact II(c): Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	None Required	No Impact

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
Impact II(d): Would the Project result in the loss of forest land or conversion of forest land to non-forest use?	None Required	No Impact
Impact II(e): Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	None Required	No Impact
Air Quality		
Impact III(a): Would the Project conflict with or obstruct implementation of the applicable air quality plan?	None Required	Less than Significant
Impact III(d): Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	None Required	Less than Significant
Biological Resources		
Impact IV(a): Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	MM BIO-A: Construction Timing and Pre-construction Survey for Nesting Birds. To the extent feasible, demolition and the initiation of construction activities should be scheduled to avoid the nesting season (generally February 1 to August 31). If demolition and construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the Migratory Bird Treaty Act and California Fish and Game Code would be avoided. If it is not possible to schedule demolition and initiation of construction activities between September 1 and January 31, a pre-construction nesting bird survey shall be conducted by a qualified biologist no more than 7 days prior to initiation of demolition or construction activities, including tree removal and pruning. The biologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, and buildings) in and adjacent to the Project site for nests. Adjacent areas to be surveyed include areas within	Less than Significant With Mitigation Incorporated

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
	300 feet of Project activities for raptors and 100 feet for other species, but potentially lower depending on site-specific factors such as existing activity and screening of nests by existing vegetation or buildings), to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Game Code are disturbed during Project implementation. The avoidance buffer shall be maintained until the chicks have fledged and the nests are no longer active as determined by the qualified biologist.	
Impact IV(b): Would the Project 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	None Required	No Impact
Impact IV(c): Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	None Required	No Impact
Impact IV(d): Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	MM BIO-A as presented in impact 3.4(a).	Less than Significant with Mitigation Incorporated
Impact IV(e): Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	None Required	Less than Significant
Impact IV(f): Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	None Required	No Impact

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
Cultural Resources		
Impact V(a): Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	None Required	No Impact
Impact V(b): Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	The Initial Study identified that Housing Element Update Subsequent EIR MM CR-2b and project-specific MM CULT-A, and MM CULT-B would apply to this impact. However, these MMs were modified in EIR Section 4.7, Tribal Cultural Resources, as shown in Table 1-2. The modified MMs also apply to this impact.	Less than Significant with Mitigation Incorporated
Impact V(c): Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	ConnectMenlo EIR MM CULT-4: Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.51 (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48	Less than Significant with Mitigation Incorporated

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
	hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	
Energy		
Impact VI(a): Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	None Required	Less than Significant
Impact VI(b): Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	None Required	Less than Significant
Geology and Soils		
Impact VII(a): Would the Project 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?	None Required	Less than Significant
ii. Strong seismic ground shaking?	None Required	Less than Significant
iii. Strong seismic-related ground failure, including liquefaction?	None Required	Less than Significant
iv. Landslides?	None Required	No Impact
Impact VII(b): Would the Project result in substantial soil erosion or the loss of topsoil?	None Required	Less than Significant
Impact VII(c): Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	None Required	Less than Significant

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
Impact VII(d): Would the Project 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?	None Required	Less than Significant
Impact VII(e): Would the Project have 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 wastewater?	None Required	No Impact
Impact VII(f): Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Connect Menlo MM CULT-3: In the event that fossils or fossil bearing deposits are discovered during ground disturbing activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 2010]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.	Less than Significant with Mitigation Incorporated

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
<i>Hazards and Hazardous Materials¹</i>		
Impact IX(d): Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	See MM 4.3a in Table 1-2	Less than Significant with Mitigation Incorporated ²
Impact IX(e): For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	None Required	No Impact
Impact IX(f): Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	None Required	Less than Significant
Impact IX(g): Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	None Required	Less than Significant
<i>Hydrology and Water Quality</i>		
Impact X(a): Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	None Required	Less than Significant
Impact X(b): Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	None Required	No Impact

¹ The Initial Study Checklist thresholds IX(a) through IX(c) are addressed in the EIR. The Summary of the EIR findings related to those thresholds are presented in Table 1-2.

² Page 74 of the Initial Study published in June 2023 with the NOP incorrectly indicated that the project would have No Impact related to the project site being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; however the analysis on pages 83 and 84 of the Initial Study explained that although the site is not included on a list of hazardous materials sites, the ConnectMenlo EIR MM HAZ-4a would apply to this site and that the Project-specific MM HAZ-A included in the Initial Study would be implemented in place of ConnectMenlo EIR MM HAZ-4a. The Initial Study applied MM HAZ-A to thresholds IX(b) and IX(d). In the EIR analysis of threshold IX(b), MM HAZ-A was revised and updated and is now identified as MM 4.3a.

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
Impacts X(c): Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:		
i. result in substantial erosion or siltation on- or off-site;	None Required	Less than Significant
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	None Required	No Impact
iii. 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; or	None Required	Less than Significant
iv. impede or redirect flood flows?	None Required	Less than Significant
Impact X(d): In flood hazard, tsunami, or seiche zones, would the Project risk release of pollutants due to Project inundation?	None Required	No Impact
Impact X(e): Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	None Required	Less than Significant
Land Use and Planning		
Impact XI(a): Would the Project physically divide an established community?	None Required	No Impact
Impact XI(b): Would the Project 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?	None Required	Less than Significant
Mineral Resources		
Impact XII(a): Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	None Required	No Impact

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
Impact XII(b): Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	None Required	No Impact
Noise		
Impact XIII(c): 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, would the Project expose people residing or working in the Project area to excessive noise levels?	None Required	No Impact
Public Services		
Impact XV(a): 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 public services:		
i. Fire protection?	None Required	Less than Significant
ii. Police protection?	None Required	Less than Significant
iii. Schools?	None Required	Less than Significant
iv. Parks?	None Required	Less than Significant
v. Other public facilities?	None Required	Less than Significant
Recreation		
Impact XVI(a): 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?	None Required	Less than Significant
Impact XVI(b): 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?	None Required	Less than Significant

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
Utilities and Service Systems		
Impact XIX(a): Would the Project 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?	None Required	Less than Significant
Impact XIX(b): Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	None Required	Less than Significant
Impact XIX(c): Would the Project 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?	None Required	Less than Significant
Impact XIX(d): Would the Project 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?	None Required	Less than Significant
Impact XIX(e): Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	None Required	Less than Significant
Wildfire		
Impact XX(a): If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?	None Required	Less than Significant
Impact XX(b): If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, due to slope, prevailing winds, and other factors, would the Project	None Required	No Impact

Table 1-1. Summary of Initial Study Conclusions and Mitigation Measures

Impacts	Mitigation Measure(s)	Level of Significance
exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?		
Impact XX(c): If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	None Required	No Impact
Impact XX(d): If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	None Required	No Impact

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Air Quality			
Impact 4.1-1: Would the Project 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?	Potentially Significant	<p>MM 4.1a: Fugitive Dust Reductions. The following dust control measures shall be implemented during construction:</p> <ol style="list-style-type: none"> 1. All exposed surfaces (e.g., parking/staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off site shall be covered. 3. All visible mud or dirt track-out onto local roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph). 5. 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. 6. 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. 	Less than Significant

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>7. 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.</p> <p>8. 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 Bay Area Air Quality District's phone number shall also be visible to ensure compliance with applicable regulations.</p>	
<p>Impact 4.1-2: Would the Project expose sensitive receptors to substantial pollutant concentrations?</p>	<p>Potentially Significant Impact</p>	<p>MM 4.1b: Construction Equipment Emissions Reductions. Prior to the commencement of construction activities for the Project, the Project Applicant shall require its construction contractor to demonstrate that all 200-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines.</p> <p>In the event of changed circumstances (e.g., changes in the availability of specific types of construction equipment), the applicant may submit a request to the City of Menlo Park to apply an equivalent method of achieving project-generated construction emissions that fall below the numeric cancer risk standards established by the Bay Area Air District (BAAD). Documentation using industry-standard emission estimation methodologies shall be</p>	<p>Less than Significant</p>

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		furnished to the City of Menlo Park demonstrating that estimated project-generated construction emissions would not exceed the applicable BAAD cancer risk threshold when using the alternate construction method(s). If the documentation demonstrates that project-generated construction emissions will remain below the applicable BAAD cancer risk threshold, then the City of Menlo Park Community Development Director may approve the alternate construction method(s), at the Director's discretion. Required construction equipment fleet and methodologies approved by the City shall be included in the contract specifications for the applicant's construction contractor.	
Impact 4.1-3: Would the Project result in cumulatively considerable air quality impacts?	Potentially Significant	MM 4.1a as presented in Impact 4.1-1 and MM 4.1b as presented in Impact 4.1-2.	Less than Significant
Greenhouse Gas Emissions			
Impact 4.2-1: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Significant	No feasible MMs	Significant and Unavoidable
Impact 4.2-2: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Significant	No feasible MMs	Significant and Unavoidable
Impact 4.2-3: Would the Project result in cumulatively considerable impacts with regard to greenhouse gas emissions?	Significant	No feasible MMs	Significant and Unavoidable

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Hazards and Hazardous Materials			
Impact 4.3-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant	None Required	Less than Significant
Impact 4.3-2: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Potentially Significant	<p>MM 4.3a Hazardous Materials Health and Safety Plan. Prior to commencement of any demolition or construction activities, the Project applicant shall prepare a Hazardous Materials Health and Safety Plan that identifies required practices and procedures to protect the general public and construction workers from potentially hazardous materials and accidental release of hazardous materials. The practices and procedures shall include spill prevention, cleanup and evacuation procedures as well as procedures to be followed in the event that previously undiscovered hazardous materials are encountered during construction. The Hazardous Materials Health and Safety Plan shall demonstrate compliance with California Code of Regulations (CCR), Title 8, Chapter 4: Subchapter 4: Construction Safety Orders; Subchapter 5: Electrical Safety Orders; and Subchapter 7: General Industry Safety Orders as well as California Health and Safety Code, Section 25100 et seq.: Hazardous Waste Control Act.</p> <p>The Hazardous Materials Health and Safety Plan shall also include provisions for completion of a comprehensive survey within each existing building to identify asbestos-containing materials (ACM) and lead-based paints (LBP)</p>	Less than Significant

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>prior to any demolition activities and shall define procedures for managing demolition activities such that ACM and LBP are not released into the air and worker exposure to ACM and LBP is avoided. These procedures shall be sufficient to ensure that demolition of buildings containing ACM and/or LBP and disposal of these materials will be conducted in accordance with local, state and federal regulations, including the U.S. Environmental Protection Agency's (EPA's) Asbestos National Emissions Standards for Hazardous Air Pollutants, the California Occupational Safety and Health Administration's Construction Lead Standard (8 CCR 1532.1), California Department of Toxic Substances Control and EPA requirements for disposal of hazardous waste, and Bay Area Air District (BAAD) Regulation 11, Hazardous Pollutants Rule 2: Asbestos Demolition, Renovation And Manufacturing. At least 10 days prior to demolition, the Project applicant and/or construction contractor shall submit an Asbestos Notification to BAAD and obtain an Asbestos Demolition/Renovation job number. Disposal of any ACM and/or LBP found on the site shall be carried out by a contractor trained and qualified to conduct lead- or asbestos-related construction work and in accordance with the appropriate state and federal standards to ensure that these materials are not released into the air in the Project vicinity.</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
Impact 4.3-3: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	Potentially Significant	MM 4.3a as presented in Impact 4.3-2. and MM 4.1b as presented in Impact 4.1-2	Less than Significant
Impact 4.3-4: Would the Project result in cumulative impacts related to hazards and hazardous materials or emergency response and evacuation?	Potentially Significant	MM 4.3a as presented as in Impact 4.3-2.	Less than Significant
Noise			
Impact 4.4-1: Would the Project result in generation of 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?	Potentially Significant	MM 4.4a: Minimizing Construction Noise. The Project sponsor, or designated representative, shall minimize the exposure of nearby properties to excessive noise levels from construction related activity. Prior to issuance of each demolition, grading, and/or building permit, a note shall be provided on Project plans to indicate that during ongoing grading, demolition, and construction, the Project sponsor, or a designated representative, shall be responsible for requiring contractors to implement the following measures to limit construction related noise: <ul style="list-style-type: none"> ▪ All internal combustion engines on construction equipment and trucks shall be fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer. ▪ Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. 	Less than Significant

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ▪ Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors. ▪ Unnecessary engine idling shall be limited to the extent feasible. ▪ The use of public address systems shall be limited. ▪ Construction traffic shall be limited to the haul routes established by the City of Menlo Park. <p><i>(modified ConnectMenlo Mitigation Measure MM NOISE-1c)</i></p> <p>MM 4.4b Construction Noise Control Plan. Prior to issuance of the first demolition and/or grading permit, the Project sponsor shall submit a noise control plan for construction at the Project site to the City for review and approval. The plan shall require compliance with Section 8.06 of the Menlo Park Municipal Code and include measures to ensure compliance with the 60 dBA L_{eq} limit during the hours of 7:00 a.m. to 8:00 a.m. and the 50 dBA L_{eq} limit during the hours of 10:00 p.m. to 7:00 a.m.</p> <p>The noise control plan shall demonstrate that construction activities that occur on the Project site (including at the boundary closest to the nearest sensitive receptor as evaluated in the “worst case scenario” described in the EIR) shall not increase noise 10 dBA above ambient at the nearest sensitive receptor, or shall require that activities causing such increase be scheduled for times when the nearest sensitive receptor is not in use.</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>The plan shall specify the noise-reducing construction practices that will be employed to reduce noise from construction activities in Menlo Park and shall demonstrate that compliance with these standards will be achievable. Measures to reduce noise may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> ▪ The noise control plan shall demonstrate that noise levels during construction on the Project site will meet the standards of this mitigation measure at sensitive receptors while those receptors are in use. ▪ The noise control plan shall demonstrate that any construction activities taking place outside of normal construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday shall comply with the 60 dBA L_{eq} limit during the hours of 7:00 a.m. to 8:00 a.m. and the 50 dBA L_{eq} limit during the hours of 10:00 p.m. to 7:00 a.m. ▪ The contractor shall ensure that construction equipment is equipped with mufflers. In addition, construction equipment must use the best available noise control techniques (e.g., improved mufflers, intake silencers, ducts, engine enclosures, acoustically attenuating shields, shrouds) on equipment and trucks used for Project construction when working outside the normal construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday to ensure compliance with the Menlo Park Municipal Code and this mitigation measure. 	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<ul style="list-style-type: none"> ▪ All construction activities shall be conducted only at an adequate distance, or otherwise shielded with sound barriers, as determined in the noise control plan, from noise-sensitive receptors when working outside the normal construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday to ensure compliance with the Menlo Park Municipal Code and this mitigation measure. ▪ Temporary noise barriers (height to be determined) shall be installed around construction on the Project site to reduce construction noise from equipment used outside the normal construction hours of 8:00 a.m. to 6:00 p.m. on weekdays. The installation of barriers would help reduce overall construction noise to less than 50 dBA L_{eq} for work occurring between 6:00 a.m. and 7:00 a.m. and 60 dBA L_{eq} for work occurring between 7:00 a.m. and 8:00 a.m., as measured at the applicable property lines of the adjacent uses. However, confirmation of the noise reduction would be required (per the last bullet of this measure, below). If the Project Sponsor can demonstrate, through an acoustical analysis, that construction noise would not exceed the allowable limits during non-exempt hours, as measured at the applicable property lines of the adjacent uses without barriers, then temporary noise barriers shall not be required. ▪ The effectiveness of noise attenuation measures shall be monitored by taking noise 	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>measurements at nearby noise-sensitive land uses during construction activities to ensure that the Project complies with the 50 and 60 dBA L_{eq} standards, which apply outside the construction exception hours of 8:00 a.m. and 6:00 p.m. Monday through Friday. Construction noise level measurements shall be performed once at the start of each construction phase and performed thereafter as the City deems necessary in response to construction noise complaints received from nearby residential receivers and Mid-Peninsula High School.</p> <p>ConnectMenlo EIR MM NOISE-1b Stationary Noise Sources. Stationary noise sources and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.</p> <p>MM 4.4c Emergency Generator Noise Reduction Plan. Prior to approval of a building permit, the Project sponsor shall conduct a noise analysis to estimate noise levels from testing the Project- specific emergency generators, based on the actual generator make and model proposed and the actual selected attenuation features. Based on the results of the analysis, if generator noise is expected to exceed allowable noise limits, a noise reduction plan shall be created to ensure that noise from generator testing will be below the applicable code requirements. The results, methods, and final noise reduction plan shall be provided to the City prior to the issuance of building permits. The</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>analysis shall account for proposed noise attenuation features, such as acoustical enclosures and mufflers or silences, and the final noise reduction plan shall demonstrate with reasonable certainty that noise from the proposed generator will not exceed the City noise thresholds of 60 dBA at the nearest noise-sensitive use during daytime hours and/or 85 dBA at 50 feet for powered equipment, whichever is lower. Acoustical treatments may include, but are not limited to:</p> <ul style="list-style-type: none"> • Enclosing the generator, • Installing a relatively quiet model of generator, • Orienting or shielding the generator to protect noise-sensitive receptors to the greatest extent feasible, • Installing exhaust mufflers or silencers, • Increasing the distance between generator and noise-sensitive receptors, and/or • Placing barriers around generator to facilitate the attenuation of noise. <p>The Project generator shall be tested only between the hours of 8:00 a.m. and 5:00 p.m. Because no nighttime testing of generators will be allowed, compliance with the 50 dBA nighttime noise threshold of the City need not be demonstrated. The Project sponsor shall incorporate adequate recommendations from the acoustical analysis into building designs and operations to ensure that noise sources meet applicable requirements of the noise ordinance.</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>Impact 4.4-2: Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?</p>	Potentially Significant	<p>MM 4.4d Construction Vibration Control Plan. Prior to issuance of a demolition permit for Phase 1, the Project sponsor shall prepare a vibration analysis and control plan addressing demolition during Phase 1 to prevent vibration levels at 965 O'Brien Drive and at 1320 Willow Road #A that exceed 0.2 in/sec PPV at all times (to prevent architectural damage) and 0.17 in/sec PPV when the adjacent building is occupied (to prevent annoyance impacts). The analysis shall demonstrate the maximum vibration levels that would occur during demolition. If maximum levels would exceed these thresholds, then the plan shall prescribe alternative methods of demolition-related activities that would reduce vibration to below the thresholds, subject to review and approval by the Community Development Department.</p> <p>Elements of the plan may include, but are not limited to:</p> <ul style="list-style-type: none"> • Use of alternative demolition methods such as saw cutting and disassembly within 15 feet of 965 O'Brien Drive or the western portion of 1320 Willow Road, as opposed to breaking with heavy machinery. • Use of vibration and/or noise blankets. • Working alternative times outside of hours the buildings would be occupied, consistent with the Construction Noise Control Plan in Mitigation Measure 4.4b, for work that may cause vibration annoyance impacts (subject to not causing architectural damage). 	Less than Significant

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<ul style="list-style-type: none"> Prohibition on driving tracked driving construction equipment greater than or equal to 80,000 lbs. within 15 feet of 965 O'Brien Drive or 1320 Willow Road, instead using equipment that can reach into the area from outside that radius (such as a crane or backhoe) or using smaller, rubber-tired equipment weighing less than 80,000 lbs. for activities closer than 15 feet. Use of vibration and/or noise monitors to ensure that vibration impacts do not exceed thresholds. 	
Impact 4.4-3: Would the Project result in cumulatively considerable noise impacts?	Potentially Significant	MMs 4.4a, 4.4b, and 4.4c as presented in Impact 4.4-1 and MM 4.4d as presented in Impact 4.4-2	Less than Significant
Population and Housing			
Impact 4.5-1: Would the Project induce substantial unplanned population growth in an area, either directly or indirectly?	Less than Significant	None Required	Less than Significant
Impact 4.5-2: Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	None Required	No Impact
Impact 4.5-3: Would the Project result in a cumulative population, employment, and housing impact?	Less than Significant	None Required	Less than Significant
Transportation			
Impact 4.6-1: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system,	Less than Significant	None Required	Less than Significant

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
including transit, roadway, bicycle, and pedestrian facilities?			
Impact 4.6-2: Would the Project exceed an applicable VMT threshold of significance?	Less than Significant	None Required	Less than Significant
Impact 4.6-3: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less than Significant	None Required	Less than Significant
Impact 4.6-4: Would the Project result in inadequate emergency access?	Less than Significant	None Required	Less than Significant
Impact 4.6-5: Would the Project result in cumulatively considerable transportation impacts?	Less than Significant	None Required	Less than Significant
Tribal Cultural Resources			
Impact 4.7-1: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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: <ul style="list-style-type: none"> (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, 	Potentially Significant	Modified Housing Element Update Subsequent EIR MM CR-2b. If pre-contact or historic-era archaeological resources are encountered during Project construction and implementation, the Project applicant shall halt all construction activities within 100 feet in consultation with the Project's tribal monitor, if the Consulting Tribe opts to designate a tribal monitor, and with the Project's archaeologist and notify the City. Pre-contact archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and	Less than Significant

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
<p>(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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>		<p>battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. An archaeologist meeting the U.S. Secretary of the Interior's Standards (SOIS) for Archeology and the tribal monitor, if one is designated, shall inspect the findings and work shall be stopped within 100 feet of the potential archaeological resources until the material is either determined by the archaeologist and tribal monitor, if one is designated, to not be an archaeological resource or appropriate treatment has been enacted, with appropriate consultation, as needed.</p> <p>If the City determines, in consultation with the Project archaeologist and Consulting Tribe, that the resource qualifies as a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines) and that the Project has potential to damage or destroy the resource, mitigation shall be implemented in accordance with PRC Section 21083.2 and CEQA Guidelines Section 15126.4, with a preference for preservation in place. If preservation in place is feasible, this may be accomplished through one of the following means: (1) siting improvements to completely avoid the archaeological resource; (2) incorporating the resource into a park or dedicated open space, by deeding the resource into a permanent conservation easement; (3) capping and covering the resource before</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>building the Project on the resource site after the resource has been thoroughly studied by a SOIS qualified archaeologist and a report written on the findings.</p> <p>If preservation in place is not feasible, the City shall notify persons who represent tribal governments on the City's AB 52 list and consult a representative of any tribe that responds to the notice within seven working days to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2, and CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery (according to PRC Section 21083.2), if deemed appropriate by the City in consultation with the Project archaeologist and any consulting tribes, or other actions such as treating the resource with culturally appropriate dignity and protecting the cultural character and integrity of the resource (according to PRC Section 21084.3). In the event the Project archaeologist and tribe(s) disagree regarding treatment after good-faith consultation, the City shall make the final decision, considering the provisions of Public Resources Code Section 21084.3(b).</p> <p>Housing Element Update Subsequent EIR MM CR-3. Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>Section 15064.5(c) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, the Project applicant shall ensure that all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.</p> <p><i>MM CULT-A Worker Environmental Training.</i> Because of the potential for the discovery of unknown buried cultural, tribal cultural, archeological, and paleontological resources, prior to commencement of each phase, the general contractor and those engaged in ground-disturbing activities shall be given environmental training regarding cultural and paleontological resource protection, tribal cultural resource identification and protection,</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>and the laws and penalties governing such protection. Specifications for archeological and tribal cultural resources sensitivity training for construction workers and superintendents shall meet the following standards:</p> <ul style="list-style-type: none"> ▪ Occurs prior to the start of any ground-disturbing activity or site work on the Project Site or for off-site improvements. ▪ Training shall be required for all construction personnel participating in ground disturbing construction to alert them to the archaeological and tribal cultural sensitivity of the area and provide protocols to follow in the event of a discovery of archaeological materials or tribal cultural resources. Training shall be provided en masse to such personnel at the start of construction of the Project, and training shall be repeated when new personnel participating in ground-disturbing site work start work. ▪ Includes, for job site posting, a document ("ALERT SHEET") that summarizes the potential finds that could be exposed, the protocols to be followed, and the points of contact to alert in the event of a discovery that is presented as part of the training. ▪ Requires the contractor to ensure that all workers requiring training are in attendance. ▪ Requires training for all contractors and sub-contractors that is documented for each permit and/or phase of a permit that requires ground-disturbing activities onsite. 	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>This training may be administered by the Project archaeologist and/or paleontologist, in addition to the tribal monitor if one is designated by the Consulting Tribe, as a stand-alone training or included as part of the overall environmental awareness training required for the Proposed Project. The training shall include, at minimum, the following:</p> <ul style="list-style-type: none"> ▪ The types of cultural resources that are likely to be encountered, ▪ The procedures to be taken in the event of an inadvertent cultural resource discovery, ▪ The penalties for disturbing or destroying cultural resources, ▪ The types of fossils that could occur at the Project site, ▪ The types of lithologies in which the fossils could be preserved, ▪ The procedures that should be taken in the event of a fossil discovery; and • The penalties for disturbing cultural, tribal cultural, archeologic, and palaeontologic resources. <p><i>MM CULT-B Perform Construction Monitoring, Evaluate Uncovered Archaeological Features, and Mitigate Potential Disturbance for Identified Significant Resources at the Project Site.</i> Prior to demolition, excavation, grading, or other construction-related activities on the Project site, the Project sponsor shall hire a qualified professional archaeologist (i.e., one who meets the Secretary of the Interior's</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>professional qualifications for archaeology or one under the supervision of such a professional) to monitor, to the extent determined necessary by the archaeologist, Project related earth-disturbing activities (e.g., grading, excavation, trenching, pile drilling). Prior to conducting earthwork on the Project Site, the Project sponsor shall notify representatives of all tribal governments that requested consultation on this Project and offer the opportunity to appoint a tribal monitor to be present during Project related earth-disturbing activities (e.g., grading, excavation, trenching, pile drilling). Each Consulting Tribe shall be given thirty (30) days to respond and identify in its response (1) the Consulting Tribe's selected tribal monitor and (2) the activities at which the Consulting Tribe would like the tribal monitor to be present (the "Monitor Response") or indicate that it declines to have a tribal monitor present. If a Consulting Tribe does not respond within thirty (30) days, the Consulting Tribe shall be deemed to have elected not to have a tribal monitor present. The tribal monitor shall be afforded the opportunity to be present at each location of ground disturbing site work identified in the Monitor Response, for the duration of such work, unless the Consulting Tribe agrees in writing that tribal monitoring is not needed in that instance, or unless the Consulting Tribe fails to provide a monitor at the scheduled time, provided that at least 15-days written notice prior to the start of any ground</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		<p>disturbing work identified in the Monitor Response was provided.</p> <p>In the event that precontact or historic period subsurface archaeological features or deposits, including locally darkened soil (midden), that could conceal cultural deposits, animal bone, obsidian, and/or mortars are discovered during demolition or construction-related earthmoving activities, Housing Element Update Subsequent EIR MM CR-2b, as modified herein, shall be followed. In addition, if the resource is a historic-era archaeological site or historic-era architectural feature and the archaeologist is not a historical archaeologist, the archaeologist shall notify the City Community Development Department and a historical archaeologist or architectural historian who meets the Secretary of the Interior's professional qualifications for archaeology and/or architectural history and that person shall follow the requirements of Housing Element Update Subsequent EIR MM CR-2b. Impacts on significant resources would be mitigated to a less-than-significant level through preservation in place, capping, data recovery or other methods determined adequate by the City that are consistent with the Secretary of the Interior's standards for archaeological documentation.</p> <p>If Native American archaeological, ethnographic, or spiritual resources are discovered, all identification and treatment of the resources shall be conducted by a qualified archaeologist and any Tribal Monitors. In the</p>	

Table 1-2. EIR Impact Summary

Impact	Level of Significance Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		event that a Consulting Tribe has not elected to have a tribal monitor present, the archaeologist shall notify the Consulting Tribe(s) and consult a representative of any tribe that responds to the notice within seven working days. In the event the archaeologist and the tribal monitor(s) or tribe(s) disagree regarding treatment after good-faith consultation, the City shall make the final decision, considering the provisions of Public Resources Code Section 21084.3(b).	
Impact 4.5-2: Would the project make a cumulatively considerable contribution to a significant cumulative impact related to tribal cultural resources?	Potentially Significant	MMs CR-2b, CR-3, CULT-A and CULT-B as presented in Impact 4.7-1	Less than Significant

2 Introduction

2.1 Purpose of the California Environmental Quality Act

This draft environmental impact report (EIR) was prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental effects associated with implementation of the 1005 O'Brien Drive/1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project). The Draft EIR was prepared in accordance with all criteria, standards, and procedures of CEQA as defined in the California Public Resources Code (PRC Section 21000 et seq.); the CEQA Guidelines provided in Title 14 of the California Code of Regulations (14 CCR 15000 et seq.); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Menlo Park (City). As the lead agency for the Project, the City must complete an environmental review to determine whether the Project could potentially result in significant adverse environmental effects.

CEQA Guidelines Section 15002 states that the basic purposes of CEQA are to:

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures (MMs) when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

2.2 Type of EIR

This Draft EIR is an informational document for public agencies and members of the public, allowing informed decisions to be made regarding the purpose, objectives, and components of the Proposed Project. Consistent with CEQA Guidelines Section 15161, this document is a project-level EIR because it evaluates the potential environmental impacts associated with a specific project. This EIR also identifies appropriate and feasible MMs, where necessary and considers Project alternatives that could reduce or avoid potential significant environmental effects. The level of impact analysis in this Draft EIR corresponds to the degree of specificity deemed appropriate in accordance with CEQA Guidelines Section 15146.

Further, in accordance with CEQA Guidelines Section 15168, which provides for simplifying the preparation of environmental documents through incorporating by reference analyses and discussions from a previously certified EIR, this EIR tiers from the analysis in the EIR certified in 2016 for the City's General Plan and M-2 Area Zoning Update project, referred to as ConnectMenlo, and the Supplemental EIR certified in 2023 for the City's Housing Element Update. The ConnectMenlo EIR and Housing Element Update Supplemental EIR are incorporated by reference into this EIR and may be accessed at the links provided in Section 2.9 below. As discussed further in Section 2.6, the ConnectMenlo EIR was prepared as a Program

EIR to broadly evaluate the ConnectMenlo General Plan updates; and the Housing Element Supplemental EIR was prepared to supplement the analysis in the ConnectMenlo EIR to broadly address the Housing Element updates. The Proposed Project is “a later activity consistent with” ConnectMenlo, thus this EIR for the 1005 O’Brien Drive/1320 Willow Road Life Sciences/R&D Project has been prepared to evaluate the Project-specific effects that were not identified as significant in the ConnectMenlo EIR.

In addition, as provided in CEQA Guidelines Sections 15126.2[a], and 15128, this document is a Focused EIR that tiers from the analysis in the ConnectMenlo EIR. As discussed further in Section 2.7, the analysis in this Draft EIR is focused on the Project-specific impacts that could be significant or potentially significant, as determined based on the analysis in the Initial Study that was circulated for public review with the Notice of Preparation (NOP) for this EIR. The Initial Study relied on the analysis and MMs in the ConnectMenlo EIR and Housing Element Update Supplemental EIR to identify those impact areas where the Project has the potential to result in impacts that were not fully evaluated in the ConnectMenlo EIR and Housing Element Update Supplemental EIR.

Section 2.7.1 of this chapter and Chapter 5, Effects Found Not to be Significant, provide a summary of the environmental resource areas and individual impact thresholds for which impacts would remain less than significant as evaluated in the Initial Study and therefore are not addressed in the Draft EIR.

2.3 Legal Authority and Lead Agency

Pursuant to CEQA Section 21067 and CEQA Guidelines Section 15367, the City is the lead agency under whose authority this EIR has been prepared. “Lead agency” refers to the public agency that has the principal responsibility for carrying out or approving a project. Serving as the lead agency and before taking action to approve the Proposed Project, the City has the obligation to (1) ensure that this EIR was completed in accordance with CEQA; (2) review and consider the information contained in this EIR as part of its decision-making process; (3) make a statement that this EIR reflects the City’s independent judgment; (4) ensure that all significant impacts on the environment are eliminated or substantially lessened, where feasible; and, if necessary, (5) make written findings for each unavoidable significant environmental effect stating the reasons why MMs or Project alternatives identified in this EIR are infeasible and citing the specific benefits of the Project that outweigh its unavoidable adverse effects (14 CCR 15090–15093).

Pursuant to CEQA Guidelines Sections 15040 through 15043, and upon completion of the CEQA review process, the City will have the legal authority to do any of the following:

- Approve the Project;
- Require feasible changes in any or all activities involved in the Project to substantially lessen or avoid significant effects on the environment;
- Disapprove the Project, if necessary, to avoid one or more significant effects on the environment that would occur if the Project was approved as proposed; or
- Approve the Project even though the Project would cause a significant effect on the environment if the City makes a fully informed and publicly disclosed decision that (1) there is no feasible way to lessen the effect or avoid the significant effect and (2) expected benefits from the Project will outweigh significant environmental impacts of the Project.

This EIR fulfills the CEQA environmental review requirements for the requested Use Permit, Architectural Control review; Lot Line Adjustment and all other governmental discretionary and ministerial actions related to the Project, which are listed in Section 2.5.1, Project Approvals.

This document is an informational document intended for use by City decision makers, other public agencies, and members of the public in evaluating the physical environmental impacts of the Proposed Project. This Draft EIR is the primary reference document for the formulation and implementation of a Mitigation Monitoring and Reporting Program for the project, in compliance with PRC Section 21081.6. Environmental impacts cannot always be mitigated to a level considered less than significant. In accordance with Section 15093(b) of the CEQA Guidelines, if a lead agency decides to approve a Project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the Project, based on the final CEQA documents and any other information in the public record. This is defined in Section 15093 of the CEQA Guidelines as “a statement of overriding considerations.”

2.4 Responsible and Trustee Agencies

Section 21104 of the California PRC requires that all EIRs be reviewed by state responsible and trustee agencies (see also 14 CCR 15082 and 15086[a]). As defined by CEQA Guidelines Section 15381, “the term ‘Responsible Agency’ includes all public agencies other than the Lead Agency which have discretionary approval authority over the project.” A trustee agency is defined in CEQA Guidelines Section 15386 as “a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California.” CEQA identifies four trustee agencies – the California Department of Fish and Wildlife, the State Lands Commission, the State Department of Parks and Recreation, and the University of California. As demonstrated throughout this EIR and the Initial Study, as of the date of this Draft EIR the City has determined that the Proposed Project would have no effects on resources within the jurisdiction of these four agencies thus none of the trustee agencies would have discretionary approval authority for the Project. Additionally, as of the date of this Draft EIR the City has determined that no discretionary approvals have been identified as needed by any other state agencies and thus there are no applicable responsible agencies.

2.5 Project Summary

The Project site is located at 1005 O'Brien Drive and 1320 Willow Road, within the Bayfront Area of the City. The Project proposes to demolish three existing commercial and industrial buildings (a total of approximately 90,630 square feet), construct two Research and Development buildings (the building facing O'Brien Drive would have five stories and the building facing Willow Road would have four stories; combined there would be a total of approximately 228,398 square feet) and a seven-level above grade parking structure. The Project would also develop approximately 59,344 square feet of open space, to include landscaping, gathering areas, and a sports court, of which approximately 31,535 square feet would be available and accessible to the public. The Project would be developed in two phases, with the south and east portion of the site being redeveloped in Phase 1 and the western portion of the site being redeveloped in Phase 2. It also is proposed to merge and resubdivide the existing three parcels that comprise the Project site into two parcels for the two Project phases and relocate the boundary between the Project site and the adjacent parcel to accommodate the proposed site layout and internal vehicular circulation.

Project Approvals

The project would require a range of discretionary and ministerial actions under the jurisdiction of the City, as well as approvals from other agencies, as described below. This Draft EIR covers all state and local government and quasi-government approvals that may be needed to implement the project, whether or not they are explicitly listed in this section or elsewhere in this Draft EIR (14 CCR 15124[d]).

City of Menlo Park

- Use Permit;
- Architectural Control;
- Vesting tentative map approval under the Subdivision Map Act to change the three Project site parcels into two parcels and a lot line adjustment to relocate a segment of the property boundary in the southeast portion of the site;
- Development Agreement (potentially);
- Heritage Tree Removal Permit;
- Community Amenity Approval;
- Below-Market-Rate Housing In-Lieu Fee Approval;
- Certification of the Environmental Impact Report.

Other Agency and Service District Reviews and Approvals

- Bay Area Air District: Permit for asbestos removal during demolition; permit for on-site generators;
- California Department of Transportation (Caltrans): Review of traffic circulation effects and consultation on potential traffic improvements that may affect state highway facilities, ramps, and intersections;
- California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program: Approval of National Pollutant Discharge Elimination System permit for stormwater discharge;
- City/County Association of Governments of San Mateo County: Review of potential effects on Routes of Regional Significance;
- Menlo Park Fire Protection District: Site Plan Review;
- Menlo Park Municipal Water: Approval of water hookups;
- PG&E: Approval of electric/natural gas improvements and connection permits;
- San Francisco Public Utilities Commission: Approval for encroachment into Hetch Hetchy aqueduct easement, if necessary based on final Project design and construction plans; no such encroachment is currently anticipated
- San Mateo County Environmental Health Services Division: Review of on-site generators;
- San Mateo County Transportation Authority: Review of potential effects on public transit;
- San Mateo County Water Pollution Prevention Program: C.3 and C.6 Development Review Checklist; and
- West Bay Sanitary District: Approval of wastewater hookups.

2.6 CEQA Process

As noted in Section 2.2, this EIR is a Focused EIR that tiers from the analysis in the EIR certified in 2016 for the City's General Plan and M-2 Area Zoning Update project, referred to as ConnectMenlo, and the Supplemental EIR certified in 2023 for the City's Housing Element Update.

ConnectMenlo EIR

The Project site is within the General Plan and M-2 Area Zoning Update (ConnectMenlo) study area. ConnectMenlo, which updated the City's General Plan Land Use and Circulation Elements and rezoned land in the Bayfront Area. ConnectMenlo was approved and the ConnectMenlo EIR was certified on November 29, 2016. ConnectMenlo serves as the City's comprehensive and long-range guide to land use and infrastructure development. ConnectMenlo's Land Use Element identifies an allowable increase in net new development potential of up to 2.3 million square feet for non-residential uses, up to 4,500 residential units, and up to 400 hotel rooms in the Bayfront Area.

Because the City General Plan is a long-range planning document, the ConnectMenlo EIR was prepared as a Program EIR, pursuant to CEQA Guidelines Section 15168. Once a Program EIR has been certified, subsequent activities within the program must be evaluated to determine whether additional CEQA review is needed. If the Program EIR addresses a program's effects in adequate detail, subsequent activities could be found to be within the Program EIR's scope, and additional environmental review may not be required, unless one of the thresholds for subsequent environmental review is met (CEQA Guidelines Section 15168[c]). When a Program EIR is relied on for subsequent activities, the lead agency must incorporate feasible MMs from the Program EIR into subsequent activities as well as the alternatives developed in the Program EIR (CEQA Guidelines Section 15168[c][3]). If a subsequent activity would have effects that are not within the scope of a Program EIR, the lead agency must prepare a new Initial Study, leading to a negative declaration, a mitigated negative declaration, or an EIR (CEQA Guidelines Section 15168[c][1]). Because the Proposed Project's location and development parameters are consistent with ConnectMenlo, the ConnectMenlo Program EIR serves as the environmental analysis for some of the effects of the Proposed Project (e.g., is incorporated by reference, pursuant to Sections 15150, 15130, and 15183).

On December 29, 2016, the City of East Palo Alto filed suit to challenge certification of the ConnectMenlo Final EIR. The City of East Palo Alto alleged that the City of Menlo Park did not comply with CEQA because the EIR underestimated the amount of new employment and failed to adequately analyze the traffic impacts that would result from the development under ConnectMenlo. To resolve litigation, the City of Menlo Park and the City of East Palo Alto entered into a settlement agreement. The key terms of the settlement agreement are as follows:

- *Reciprocal Environmental Review for Future Development Projects.* Menlo Park will prepare an EIR for any project located in the Office (O), Life Science (LS), or Residential Mixed-Use (RMU) district that exceeds 250,000 net new square feet and requires a use permit, that proposes bonus-level development, that proposes a master plan project, or that may have a significant environmental impact. Menlo Park may, with the exception of housing and traffic (which were the focus of East Palo Alto's challenge), simplify the environmental review for future development projects by incorporating analysis and discussions from the ConnectMenlo Final EIR, pursuant to CEQA Guidelines Section 15168(d). East Palo Alto will prepare an Initial Study for future development

projects in that city to determine the appropriate level of environmental review and will conduct that review, which can be simplified by incorporating by reference analysis and discussions from its general plan, referred to as Vista 2035.

- *Reciprocal Traffic Studies.* Menlo Park and East Palo Alto will work together to ensure that future development projects' potentially significant traffic impacts on the other jurisdiction are analyzed and mitigated.
- *Reciprocal Study of Multiplier Effect.* When the preparation of an EIR is required, as described above, Menlo Park or East Palo Alto, as applicable, will conduct a Housing Needs Assessment, which, to the extent possible, will include an analysis of the multiplier effect for indirect and induced employment.

Pursuant to the settlement agreement in the 2017 *City of East Palo Alto v. City of Menlo Park* case, certain topics have been identified as needing further environmental review. This EIR and the Initial Study (Appendix G2) were prepared in accordance with the terms of the settlement agreement, which allows simplification in accordance with CEQA Guidelines Section 15168 for all topic areas, except housing and transportation, and incorporates by reference the information contained in the ConnectMenlo Final EIR, as applicable.

Housing Element Update Supplemental EIR

In January 2023, the City adopted the 2023-2031 Housing Element Update and certified a Supplemental EIR addressing those updates. As required by State law, the Housing Element Update addresses current and near-term future housing needs in Menlo Park and provides a framework for the community's longer-term approach to address housing needs. As the Housing Element is a component of the General Plan, the City prepared a Supplemental EIR that tiers from the ConnectMenlo EIR to evaluate the potential physical environmental effects of the Housing Element Update project and determine whether the Housing Element Update would result in any new or more severe impacts than were identified in the ConnectMenlo EIR. During preparation of the Housing Element Update Supplemental EIR, the City revised several of the ConnectMenlo EIR MMs. Where the Housing Element Supplemental EIR analysis and MMs are applicable to the Proposed Project, the environmental review for this Project also incorporates by reference the Housing Element Update Supplemental EIR and applies the Housing Element Update Supplemental EIR MMs to this Project.

Tiered Analysis

Section 15168(d) of the CEQA Guidelines provides for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions from previously certified or adopted CEQA documents. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not identified as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]). By tiering from the ConnectMenlo EIR and the Housing Element Update Supplemental EIR, the environmental analysis for this Proposed Project relies on the ConnectMenlo EIR and Housing Element Update Supplemental EIR for the following:

- A discussion of general background and setting information for environmental topic areas,

- Overall growth-related issues,
- Issues that were evaluated in detail in the ConnectMenlo EIR and/or Housing Element Update Supplemental EIR for which there is no significant new information or change in circumstances that would require further analysis,
- An assessment of cumulative impacts, and
- Incorporation of MMs adopted by the ConnectMenlo EIR and Housing Element Update Supplemental EIR.

Per CEQA Guidelines Section 15168, later activities occurring under a Program EIR may be examined in light of the Program EIR and tier from the Program EIR, as provided for in CEQA Guidelines Section 15152. Per CEQA Guidelines Section 15152, “where an EIR has been prepared and certified for a program [...] consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program [...] should limit the EIR [...] on the later project to effects that:

1. Were not examined as significant effects on the environment in the prior EIR, or
2. Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.”

The analysis provided in this EIR and the Initial Study tier from the ConnectMenlo Final EIR and Housing Element Update Supplemental Final EIR, as appropriate and further described in each topical section.

The Proposed Project would be required to comply with all applicable MMs identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP) and the Housing Element Update Supplemental EIR MMRP, which are existing and enforceable MMRPs and a requirement of any proposed development project in the city. Applicable MMs identified in the Initial Study are provided in Table 1-1, Summary of Impacts and Mitigation Measures from the Initial Study, and Table 1-2, Summary of Impacts and Mitigation Measures from the EIR; both of which are presented in Chapter 1, Executive Summary. For a complete description of potential impacts identified in the Initial Study, please refer to the specific discussion within each topical section of the Initial Study (Appendix G2).

Focused EIR

To begin the CEQA compliance process for the Project, an Initial Study was prepared that evaluates a range of the Project’s potential environmental effects. For some such effects, the Initial Study identifies MMs that would avoid the effect or reduce it to a less than significant level. The City issued a Notice of Preparation (NOP) of this EIR that summarized the findings of the Initial Study and other agencies and the public of the decision to undertake preparation of an EIR and the anticipated scope of the EIR. Based on the findings in the Initial Study, this focused EIR was prepared for impacts that need further discussion and/or mitigation beyond that provided in the ConnectMenlo EIR and the Housing Element Subsequent EIR. The City will serve as the lead agency with final decision-making authority relative to the Proposed Project and certification of the EIR.

The NOP and Initial Study were released for the Proposed Project on June 2, 2023, for a 30-day public review period. A public scoping meeting was held on June 26, 2023, before the City Planning Commission. The NOP noted that the Proposed Project may have a significant effect on the environment and that an EIR

would be prepared for the Proposed Project. A copy of the NOP is provided in Appendix G1 of this Draft EIR and the Initial Study in Appendix G2.

The NOP was sent to individuals, local interest groups, adjacent property owners, and responsible and trustee state and local agencies that have jurisdiction over or interest in environmental resources and/or conditions in the vicinity of the Project site. The purpose of the NOP was to allow various private and public entities to transmit their concerns and comments on the scope and content of the Draft EIR, focusing on specific information related to each individual's or group's interest or agency's statutory responsibility early in the environmental review process.

In response to the NOP, letters were received from the following agencies:

- Caltrans
- Native American Heritage Commission
- San Francisco Public Utilities Commission (SFPUC)

Copies of the NOP comment letters and the comments recorded at the Planning Commission hearing are included in Appendix G3 of this Draft EIR.

The following list summarizes the environmental concerns raised in the NOP comments and the EIR or Initial Study section in which those concerns are addressed. A more detailed summary of the NOP comments is provided in Section 2.7.2.

- **Air Quality:** Analysis of potential air quality and odor effects to Mid-Peninsula High School. Refer to EIR Section 4.1.
- **Greenhouse Gas Emissions:** Analysis of the proposed use of natural gas relative to the City's Climate Action Plan goals. Refer to EIR Section 4.2.
- **Hazards and Hazardous Materials:** Analysis of proposed life sciences/R&D uses and associated BioSafety Levels; need for secondary containment around chemical storage areas; and consideration of environmental risks associated with the Project site's moderate liquefaction susceptibility and location within a FEMA flood zone. Refer to Initial Study Section 3.9 and EIR Section 4.3.
- **Hydrology and Water Quality:** The need for the Project to include grading and drainage plans that ensure the Project site does not drain onto the SFPUC right-of-way. Refer to Initial Study Section 3.10.
- **Noise:** Potential noise impacts to Mid-Peninsula High School. Refer to EIR Section 4.4.
- **Transportation:** Analysis of traffic operations, travel demands, vehicle miles traveled, traffic signals, transportation impact fees, public transit, pedestrian and bicycle facilities, construction impacts, equitable access, encroachment permits, transportation demand management, potential effects on access to the neighboring Mid-Peninsula High School. Refer to EIR Section 4.6.

- **Tribal Cultural Resources:** Analysis of potential impacts on tribal cultural resources and tribal consultation requirements. Refer to EIR Section 4.7.
- **Utilities and Service Systems:** Requirements for the Project to prevent encroachment of construction vehicles, equipment, and materials onto the SFPUC right-of-way and water supply.
- **Alternatives:** Analysis of Proposed Project alternatives, including consideration of eliminating the use of fossil-fuels and reducing the amount of parking provided onsite. Refer to EIR section 7.

2.7 Scope of the Focused Environmental Impact Report

In accordance with CEQA Guidelines Section 15143, environmental impacts dismissed in an Initial Study as clearly insignificant and unlikely to occur need not be discussed further in the EIR unless the lead agency subsequently receives information inconsistent with the finding. As documented in the NOP, this EIR addresses the topics of air quality, greenhouse gas emissions, noise, population and housing, and transportation. In addition, based on public comments received in response to the NOP, this EIR also addresses hazards and hazardous materials; and based on requests from Native American tribes that are culturally and traditionally affiliated with the Project area, this EIR also addresses Tribal Cultural Resources.

Effects Focused Out of the Environmental Impact Report

As documented in the Initial Study circulated with the NOP for this EIR and summarized here, there are several environmental impact areas for which the project is expected to have no impacts, less than significant impacts, or impacts that would be reduced to less than significant levels with implementation of MMs identified in the Initial Study, and none of the comments received in response to the NOP provide information demonstrating that the Initial Study analysis and conclusions are incorrect. A brief summary of those topics and individual environmental resource thresholds is provided here; refer to Chapter 5, Effects Found Not to be Significant, for additional discussion of these topics.

- **Aesthetics:** There are no publicly accessible views of scenic resources that would be blocked or obstructed by the Proposed Project and the Project would comply with City standards relating to visual quality.
- **Agriculture and Forestry Resources:** There are no agricultural or forestry resources located on or adjacent to the site.
- **Air Quality:** The Project is consistent with the land use and zoning designations for the site (which are key underlying assumptions for the applicable air quality management plan), would comply with City policies and ordinances related to air quality, energy efficiency, and transportation, and would not conflict with any applicable control measures from the Bay Area Air Quality Management District's *2017 Clean Air Plan*. Odors generated during construction would not affect substantial numbers of people and no substantial odors would be generated during Project operation. Other potential air quality impacts are evaluated in Section 4.1 of this EIR.
- **Biological Resources:** The Project site and surrounding areas do not contain any sensitive natural communities and do not contain any unique and/or special-status biological resources.

- Cultural Resources: The Project site does not contain any historic resources and there are no known archaeological resources or human remains within the Project site.
- Energy: The Project would comply with and exceed the existing energy standards and regulations and would not conflict with energy conservation and efficiency standards and regulations.
- Geology and Soils: The Project would not exacerbate the potential for seismic hazards to affect the Project site or other properties in the vicinity; the Project would not create a potential for landslides to occur; the Project would comply with the City's grading and drainage guidelines and implement a Storm Water Pollution Prevention Plan during construction to minimize erosion. The Proposed Project would not require the use of septic tanks or alternative wastewater disposal systems. There are no known paleontological resources within the Project site.
- Hydrology and Water Quality: The Project would comply with stormwater control regulations; would prepare and implement a Storm Water Pollution Prevention Plan to reduce potential impacts on water quality. The Project would not increase groundwater demand or decrease groundwater recharge, alter the existing drainage pattern of the site, increase surface runoff or create or contribute runoff water that would exceed the capacity of stormwater drainage systems. The Project would comply with existing requirements related to flood hazards and would not exacerbate flooding or cause flooding to occur. The Project would comply with local, regional, and state regulations regarding water quality and would not conflict with or obstruct implementation of the region's water quality control plan.
- Land Use and Planning: The Project would not construct any physical barriers or features that would divide an existing community or limit mobility and connectivity in the area and would be consistent with all applicable General Plan and Municipal Code policies and regulations.
- Mineral Resources: There are no known mineral resources located on or adjacent to the site and the site is not zoned for mineral extraction.
- Noise: There are no airports or airstrips in the Project vicinity. Other potential noise impacts are evaluated in Section 4.4 of this EIR.
- Public Services: The Project is consistent with the land use and zoning designations for the site and would not increase anticipated demands for public service that would require new or physically altered fire protection and law enforcement facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The Project's impacts related to school capacity and enrollment would be mitigated through payment of adopted school impact fees. The Project would not substantially increase use of existing parks, require development of new parks, substantially increase employment or residential population within the City, or increase demands for libraries and other public facilities.
- Recreation: The Project would not increase use of recreation facilities and would not cause physical deterioration of recreational facilities or a need to construct or expand recreational facilities.
- Utilities and Service Systems: The Project is consistent with the land use and zoning designations for the site and would not increase anticipated demands for utilities and service systems that would require new or physically altered facilities and infrastructure for water supply, wastewater conveyance and treatment, and stormwater drainage. The Proposed Project would implement a Zero Waste Management Plan (Appendix F to the Initial Study that was made available for public review at the time the Notice of Preparation for this EIR was circulated) and would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs.

- Wildfire: The Project site and surrounding areas are not located in a fire hazard severity zone.

Notice of Preparation Comments

The NOP, Initial Study and all comments received in response are provided in Appendices G1, G2 and G3. Table 2-1 presents a summary of the NOP comments.

Table 2-1. NOP Comment Summary

Commenter	Summary
Tamien Nation	Request for consultation under Assembly Bill 52
Native American Heritage Commission	Provides recommendations for complying with requirements for consultation with native American tribes under Assembly Bill 52. The comment letter also addresses tribal consultation requirements under Senate Bill 18, however, Senate Bill 18 is not applicable to the Proposed Project because no changes to the General Plan land use designation for the Project site are proposed.
Caltrans	Provides Caltrans recommendations and guidance for evaluation of travel demands, vehicle miles traveled, traffic signal operations, transportation impact fees, construction impacts, equitable access, and encroachment permits.
SFPUC	Concurs that current plans do not require encroachment into the SFPUC right-of-way; recommends control measures during construction to prevent accidental encroachment; notes requirements for project review should encroachment become necessary. States that drainage onto the SFPUC right-of-way must be prevented. Requests that SFPUC be included on an emergency contact list for any accidental release of hazardous materials during project operation and that back-up diesel-fueled generators include secondary containment for potential fuel spills.
Mid-Peninsula High School	Provides campus's 2023-2024 operating schedule, daily schedule, and information about afterschool programs. Identifies concerns about traffic in relation to school accessibility during construction as well as construction noise and odors being disruptive to the campus's indoor and outdoor activities.
Sierra Club, Loma Prieta Chapter, Sustainable Land Use Committee	Identifies author's concerns regarding risks to human health and the environment associated with locating Life Sciences land uses in an area with seismic liquefaction potential and within a FEMA flood zone, adjacent to residences, schools and day care. Provides information on the four classes of biohazards safety levels (BSL).

Table 2-1. NOP Comment Summary

Commenter	Summary
	Suggests that BSL-3 and BSL-4 be prohibited and inquires whether live animal research will be included. Requests analysis of the following: potable water demand, energy consumption, wastewater generation, zero-waste strategies, lighting control (particularly limiting visible nighttime lighting from interior spaces), noise associated with deliveries, noise associated with ventilation and exhaust, and air pollutants in exhaust.
Naomi Goodman	Identifies author's concerns regarding risks to human health and the environment associated with locating Life Sciences land uses in an area asserted to have liquefaction potential and within a FEMA flood zone, adjacent to residences, schools and day care. Notes that future tenants for the project are unknown, thus the types of research and associated BSL are also unknown. States that neither the City nor other agencies have processes or responsibilities for ensuring public safety if hazardous biological agents are released. Requests analysis of: potential human health and environmental impacts from all biological agents that could be used at the Project site, details of the public agency response to a biohazard release, details of how buildings/systems will be designed to avoid biohazard release in the event of a natural disaster, whether live animal testing will be allowed, and the Project's demand for potable water.
John McKenna	Recommends that use of natural gas be omitted from the Project in favor of all-electric buildings, including all-electric laboratory space to further support the City's climate action goals. Requests that back-up generators be battery-powered rather than diesel; that BSL-3 and BSL-4 be prohibited; and that heritage trees on-site be retained.
Peter Altman	States author's opposition to the project and identifies author's concerns related to vehicle traffic congestion and needs for improvements to roadways, public transit, and pedestrian and cycling infrastructure. Estimates that the Project's parking garage could accommodate 300 to 600 vehicles and that it may not be sufficient to meet the Project's parking demand. Suggests that priority should be given to developing new parks, protecting green spaces, and enhancing existing trails/paths and access to CalTrain.

2.8 Organization of this Environmental Impact Report

This Draft EIR contains all of the information required to be included in an EIR, as specified by CEQA and the CEQA Guidelines (PRC Section 21000 et seq.; 14 CCR 15000 et seq.). The following provides a quick reference for locating the CEQA-required sections within this document:

- **Chapter 1: Executive Summary.** The Executive Summary provides a summary of the project and project alternatives, including a summary of the project and cumulative impacts, recommended MMs, and the level of significance after mitigation for each environmental issue.
- **Chapter 2: Introduction.** This Introduction provides an overview of the project and the CEQA process, and describes the purpose, scope, and components of this Draft EIR.
- **Chapter 3: Project Description.** The Project Description provides a detailed description of the project, including the location and project characteristics. The intended uses of this Draft EIR, project background, project objectives, and required project approvals are also identified.
- **Chapter 4: Environmental Analysis.** The Environmental Analysis chapter analyzes the environmental impacts of the project. Impacts are organized into major environmental topic areas. Each topic area includes a description of the environmental setting, regulatory framework, thresholds of significance, individual and cumulative impacts, MMs, and level of significance after mitigation. The Proposed Project's potential contribution to cumulative impacts are also discussed. The following specific environmental areas are addressed in Chapter 4:
 - Section 4.1 – Air Quality
 - Section 4.2 – Greenhouse Gas Emissions
 - Section 4.3 – Hazards and Hazardous Materials
 - Section 4.4 – Noise
 - Section 4.5 – Population and Housing
 - Section 4.6 – Transportation
 - Section 4.7 – Tribal Cultural Resources
- **Chapter 5: Effects Found Not to Be Significant.** The Effects Found Not to Be Significant chapter provides a summary of environmental topic areas and individual environmental resource thresholds where no additional discussion in this EIR is warranted because the Initial Study prepared with the NOP indicated that the project would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated.
- **Chapter 6: Other CEQA Considerations.** The Other CEQA Considerations chapter provides a summary of significant environmental impacts, including unavoidable, irreversible, and growth-inducing impacts.
- **Chapter 7: Alternatives.** The Alternatives chapter provides a comparison between the project impacts and three project alternatives: (1) the No Project/No Development Alternative, (2) the Base-Level Development Alternative, and (3) the MidRange-Level Development Alternative.
- **Chapter 8: List of Preparers.** The List of Preparers chapter provides a list of the organizations, persons consulted, and various individuals who contributed to the preparation of this Draft EIR.

This chapter also includes a list of the lead agency personnel and technical consultants who helped prepare this Draft EIR.

- **Appendices.** The technical appendices contain the NOP (including public comments) and technical studies prepared to support the analyses and conclusions in this Draft EIR.

The Final EIR will be prepared after the public review period for this Draft EIR has been completed. The Final EIR will include comments and recommendations received on the Draft EIR during the public review period; a list of persons, organizations, and public agencies commenting on the Draft EIR; written responses to significant environmental issues identified in the comments received; and any other relevant information added by the City.

2.9 Prior EIRs Incorporated by Reference

This Draft EIR has referenced information and analysis from previously certified environmental documents. Pursuant to CEQA Guidelines Section 15150, these documents are incorporated in this EIR by reference. Information from these documents is briefly summarized in the appropriate chapters and sections. The documents incorporated by reference are listed below and the location where they are available for review is identified:

- City of Menlo Park ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update, EIR, SCH No. 2015062054
Available online:
<https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo>
- City of Menlo Park. Housing Element Update Subsequent EIR, SCH No. 2015062054
Available online:
<https://menlopark.gov/files/sharedassets/public/v/1/community-development/documents/projects/housing-element-update/20221230-menlo-park-housing-element-update-final-subsequent-environmental-impact-report-seir.pdf>

2.10 Additional Key Reference Documents

In addition to the previously certified environmental documents that are incorporated in this EIR by reference, several other planning and technical documents have been used to inform the analysis in this EIR. Key reference documents include:

- City of Menlo Park General Plan
Available online:
<https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/General-PlanPlan>

- City of Menlo Park Municipal Code
Available online:
<https://www.codepublishing.com/CA/MenloPark/>

Each section of the EIR includes a complete list of the references cited in that section.

2.11 Documents Prepared for the Project

The following documents, technical studies, and analyses were prepared for the project and project site. Appendices A through F are included in the project record as appendices to the Initial Study while Appendices G through N are included in the project record as appendices of this Draft EIR:

- Appendix A1: Biological Resources Assessment
- Appendix A2: Tree Survey Report
- Appendix B: Built Environment Inventory and Evaluation Report
- Appendix C: CalEEMod Data Energy
- Appendix D: Phase I and II Environmental Site Assessment
- Appendix E: Hydrology Reports
- Appendix F: Zero Waste Management Plan
- Appendix G: NOP, Initial Study, and NOP Comments
- Appendix H: Project Plans (dated November 2025)
- Appendix I: Air Quality and Greenhouse Gas Emissions Modeling Data and Documents
- Appendix J: Construction Health Risk Assessment
- Appendix K: Noise Calculations
- Appendix L: Housing Needs Assessment
- Appendix M1: Transportation Impact Analysis
- Appendix M2: Transportation Demand Management Memorandum

2.12 Review of the Draft Environmental Impact Report

Upon completion of this Draft EIR, the City prepared and filed a Notice of Completion with the Governor's Office of Planning and Research, State Clearinghouse to start the public review period (as specified in PRC Section 21161). Concurrent with filing the Notice of Completion, the City distributed a Notice of Availability of the Draft EIR in accordance with CEQA Guidelines Section 15087. The Notice of Availability was mailed to the agencies, organizations, and individuals who had previously submitted a written request for notification. This Draft EIR was distributed to other affected agencies, surrounding cities and municipalities, and all interested parties requesting a copy of this document in accordance with PRC Section 21092(b)(3).

During the public review period, this Draft EIR, including the appendices, is available for review at the following locations:

In Person: Menlo Park City Hall: 701 Laurel Street, Menlo Park, CA 94025

Belle Haven Community Campus library: 100 Terminal Avenue, Menlo Park, CA 94025

Online: <https://www.menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1005-OBrien-Dr-and-1320-Willow-Rd>

Comments regarding the EIR analysis and MMs must be submitted to the City no later than 5 p.m. on May 15, 2026. Please send your written comments to Christopher Turner at the physical address shown above or at crturner@menlopark.gov with “1005 O’Brien Drive and 1320 Willow Road Project EIR” as the subject. Emailed comments are preferred.

3 Project Description

3.1 Introduction

O'Brien Drive Portfolio, LLC (Project sponsor) has submitted an application to the City of Menlo Park (City) requesting approval of various discretionary entitlements in support of the proposed 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project). The Project would include demolition of three existing buildings on the Project site, which contain office, R&D and warehouse/storage uses, and construction of two R&D buildings, a parking garage, and open space/pedestrian areas. The reasonably foreseeable and potentially significant adverse environmental effects of the Proposed Project are evaluated in this environmental impact report (EIR). Consistent with Section 15124 of the California Environmental Quality Act (CEQA) Guidelines, the Project description provided in this chapter includes the location and boundaries of the Project site, as shown on a location map and regional map; a statement of the Project objectives; a general description of the Project's technical, economic, and environmental characteristics and supporting public utilities facilities; a description of discretionary approvals necessary to authorize the Project to proceed, including a list of the agencies that are expected to use the Project's CEQA compliance documentation (which consists of the Initial Study and this EIR) in their decision making; and a list of permits and other approvals required to implement the Project.

Information has been provided by O'Brien Drive Portfolio, LLC, as the Project sponsor, and by City staff. The following Project description served as the basis for the environmental analysis contained in the Initial Study and prepared for this EIR. As discussed in Chapter 1, Introduction, based on the findings in the Initial Study, this focused EIR was prepared for impacts that need further discussion and/or mitigation beyond that provided in the ConnectMenlo EIR and the Housing Element Subsequent EIR. The City is the CEQA lead agency with final decision-making authority relative to the Proposed Project and certification of the EIR.

3.2 Project Site

Project Location

The Proposed Project is located in the Bayfront Area of the City, as shown in Figure 3-1, Project Vicinity and Location. The City is located at the southern edge of San Mateo County and is generally bound by San Francisco Bay to the north and east; the cities of East Palo Alto and Palo Alto and Stanford University to the southeast; and Atherton, Redwood City and unincorporated North Fair Oaks to the northwest. Under the City's recent General Plan update, referred to as ConnectMenlo, the Bayfront Area is the focus of future land use changes. The Bayfront Area is generally bound by San Francisco Bay to the north; Redwood City to the west; East Palo Alto to the southeast; and Bay Road and the Menlo Park neighborhoods of Belle Haven, Flood Triangle, Suburban Park, and Lorelei Manor to the south, as shown in Figure 3-1. The Bayfront Area has historically been developed with industrial, warehouse, and office uses.

Existing Development

The 4.2-acre (182,616 square feet) Project site (Assessor's Parcel Numbers [APNs] 055-421-160, 055-421-050, and 055-421-060) is located at 1005 O'Brien Drive and 1320 Willow Road (as shown in Figure 3-2, Project Site). The site is bounded on the north by right-of-way for the Hetch-Hetchy water line and the Mid-Peninsula High School, Willow Road to the west, O'Brien Drive to the south and two adjoining properties on the east (1035 O'Brien Drive and 10 Kelly Court). Further, the site is located north of United States Route (U.S. Route) 101, south of Bayfront Expressway (State Route [SR] 84), and west of University Avenue (SR 109).

As shown in Figure 3-2, the Project site includes all of the three following contiguous parcels:

- APN 055-421-160 (1320 Willow Road) is 2.20 acres (95,832 square feet) located in the northwestern portion of the Project site and includes one building.
- APN 055-421-050 (985 O'Brien Drive) is 0.98 acre (42,565 square feet) located in the southwestern portion of the Project site and contains one building.
- APN 055-421-060 (1001 O'Brien Drive) is 1.02 acres (44,219 square feet) located in the southeastern portion of the Project site and contains one building.

In addition, approximately 1,230 square feet in the southwest corner of APN 055-421-190, which currently contains a portion of the surface parking lot for 1035 O'Brien Drive, would be added to the Project site while an equal area in the northeast corner of APN 055-421-060 would be added to the 1035 O'Brien Drive parcel, as shown in Figure 3-3. This land swap would be implemented through the City's approval pursuant to the Subdivision Map Act regulations.

Environmental Conditions

This discussion provides an overview of the existing environmental conditions at the Project site. The information presented here is summarized from a range of technical studies that were prepared to support the environmental review process for the Project and were included as technical appendices to the Initial Study that was made available for public review at the time the Notice of Preparation for this EIR was circulated. These include:

- Appendix A1 Biological Resources Assessment
- Appendix A2 Tree Survey Report
- Appendix B Built Environment Inventory and Evaluation Report

The Project site is generally flat and is characterized by existing industrial uses within a developed portion of the Bayfront Area (Appendix A1). Specifically, the site consists of three existing office, R&D, and warehouse/storage buildings totaling 90,631 square feet of building space as well as surface parking. All buildings were constructed between 1961 and 1968 and are single-story (Appendix B). Though the Project site largely consists of impermeable surfaces, including existing buildings and paved roads/parking areas, there is a small area of landscaping along the eastern border of the site as well as 11 trees onsite, with 4 located along the Willow Road frontage and 7 located along the O'Brien Drive frontage (Appendix A2).

Sidewalks are present along Willow Road; however, there are no sidewalks on O'Brien Drive, along the southern border of the Project site.

The site is within the Federal Emergency Management Agency (FEMA) Zone AE (FEMA 2022), indicating it is likely to be subject to inundation during a 100-year flood (Appendix A1).

Existing industrial and office uses surround the Project site to the south and east. Some of the existing industrial buildings are leased for non-industrial uses, such as a church located directly west of the Project site. The right-of-way for the Hetch Hetchy waterline is located immediately north of the Project site, between the site and Mid-Peninsula High School. The High School uses the Hetch Hetchy right-of-way for parking, open space and athletic fields. The area north and northeast of Mid-Peninsula High School currently supports additional industrial and office buildings but is planned for redevelopment under the Willow Village project, which would replace the existing industrial and office buildings with a town square district, a residential/shopping district, and a corporate campus district, including a maximum of 1,730 multi-family residential units. As shown in Figure 3-1, other schools in the vicinity include Belle Haven School to the west, Little Oak Preschool to the southwest, Costaño Elementary School to the northeast, Cesar Chavez Ravenswood Middle School to the southeast, and KIPP Valiant Community Preparatory School to the south. Residential development is located west of the site, across Willow Road, as well as further south and east of the Project site (beyond intervening industrial/office uses). The San Francisco Bay is located approximately 0.5 mile north and 1.25 miles east of the Project site.

City of Menlo Park General Plan and Zoning Designations

The Project site is designated under the General Plan as Life Sciences (LS) and is zoned as Life Sciences/Bonus Available (LS-B). Thus, development of the Project site is subject to the requirements of the Menlo Park Municipal Code Chapter 16.44, LS District. The purpose of this zoning designation is to provide opportunity for new life science and R&D uses, and high-tech offices with supportive sales and personal services. Specifically, Section 16.44.010 provides that the purpose and intent of the LS district is to:

- (1) Attract research and development and light industrial uses, particularly those that support bioscience and biomedical product development and manufacturing and/or are potentially revenue generating businesses;
- (2) Allow administrative and professional office uses and other services that support light industrial and research and development sites nearby;
- (3) Provide opportunities for quality employment and development of emerging technology, entrepreneurship, and innovation;
- (4) Facilitate the creation of a thriving business environment with goods and services that support adjacent neighborhoods as well as the employment base.

Development regulations for the LS District indicate a base level building height of 35 feet (up to 110 feet with Bonus Level designation), a maximum Floor Area Ratio (FAR) of 55 percent for R&D uses (up to 125 percent with Bonus Level designation), and a minimum open space requirement of 20 percent. The Project proposes to meet the open space requirement in part with publicly accessible open space, including a sports court, to be located in the northeast corner of the site. The Project proposes to utilize the bonus-level development provisions in exchange for payment of the City's in-lieu fee for community amenities.

Properties adjoining the Project site are designated in ConnectMenlo as Life Sciences (LS), and properties in the vicinity and across Willow Road have zoning designations that include Office-Bonus (O-B), Life Sciences (LS), Residential Mixed Use (R-MU), and High Density Residential (R4).

3.3 Project Objectives

CEQA requires an EIR to include a statement of objectives for the proposed project, including the underlying purpose of the project. As noted in the CEQA Guidelines, these objectives help the lead agency to determine which project alternatives to evaluate in the EIR (CEQA Guidelines Section 15124[a]). The overarching intention of the Proposed Project is to deliver new R&D buildings and supporting site improvements that would contribute to attainment of the City's vision for the Bayfront Area as set forth in the City's General Plan. More specifically, the objectives for the proposed project are to do the following:

- To build new cutting-edge R&D buildings that will cater to the Bay Area and Stanford entrepreneurial community, as well as life sciences companies both regionally and nationally, by providing space for reliable laboratory and research uses, with accessory office areas and tenant amenities such as private outdoor areas.
- To develop an environmentally sustainable, high-quality aesthetic facility with the flexibility to accommodate a single R&D tenant or meet the needs of multiple tenants.
- To create a Project that grows a broad socioeconomic base of jobs as well as a business-to business tax base for the City of Menlo Park.
- To develop space that will accommodate R&D employees and jobs in the new Life Sciences district.
- To provide or pay in-lieu fees to fund community amenities for surrounding neighborhoods consistent with ConnectMenlo goals and policies.
- To achieve Leadership in Energy and Environmental Design (LEED) Gold and Silver certifications or equivalent.
- To enhance public accessibility from O'Brien Drive and Willow Road to potential future public open spaces along the Hetch Hetchy right-of-way, while also providing private (non-public) open space opportunities onsite.

3.4 Proposed Project

The Proposed Project would demolish existing onsite buildings, construct two R&D buildings and one parking structure, and develop open space, landscaping, and a sports court. The Project would be developed in two phases, as further described below. The Project proposes to merge the existing three parcels that comprise the Project site into two parcels and relocate the boundary between the Project site and adjacent parcel (APN 055-421-190 and APN 055-421-060) to accommodate the proposed site layout and internal vehicular circulation.

The proposed site design accommodates sea-level rise, and all proposed ground-level building floors would be raised 2 feet above the 12.8 feet FEMA base flood elevation, per the requirements of Menlo Park Municipal Code Section 16.44.130(4).

Project Phasing

Phase 1

Phase 1 of the Project would include:

- Demolition of 985 O'Brien Drive and 1001 O'Brien Drive buildings (total 40,586 square feet) and demolition of the eastern half of 1320 Willow Road (approximately 24,032 square feet),
- Lot line adjustment in the central portion of the site to combine the existing parcels at 985 and 1001 O'Brien and the eastern portion of the parcel at 1320 Willow Road into a single parcel and to make the eastern property line perpendicular to O'Brien Drive, which would bring the western portion of the surface parking lot for 1035 O'Brien Drive into the Project site,
- Construction of one R&D building with 154,581 square feet at 1005 O'Brien Drive,
- Construction of a 200-square-foot chemical storage enclosure and a solid waste/recycling enclosure, and installation of an emergency generator and enclosure west of the 1005 O'Brien Drive building,
- Construction of a five-level parking garage,
- Restriping existing asphalt south of the building at 1320 Willow Road to create surface parking, and
- Construction of landscaping, open space, and designated pedestrian areas.

In Phase 1 of the Project, the existing buildings at 985 O'Brien Drive and 1001 O'Brien Drive would be demolished. The eastern portion of the existing building at 1320 Willow Road would be removed as well, while the remaining western portion would be removed during Phase 2 of the Project and would remain in use until then. During Phase 1, it is anticipated that the current tenant in the western side of 1320 Willow would continue operations. Subject to City approval pursuant to the Subdivision Map Act regulations, the existing three parcels would be merged to create two parcels and the boundary along the southeastern portion of the Project site would be relocated to align the property line perpendicular to O'Brien Drive, as shown in Figure 3-3, Phase 1 Construction.

Phase 1 would continue with construction of a new building at 1005 O'Brien Drive, consisting of approximately 155,000 square feet in 5 stories. A deck would be constructed on the southeast corner of the roof, to include seating areas, plants, and a trellis. The building would be primarily used for and designed to accommodate R&D tenants. The Project sponsor's life science tenants in other nearby buildings have typically consisted of companies that design medical devices and services, develop clean technology products, and engineer environmentally sustainable foods. To accommodate such uses, the building would include 30 to 45 percent office space and 55 to 70 percent laboratory space.

Phase 1 also includes construction of a parking garage to accommodate vehicles for onsite users, totaling 139,500 square feet. During operation of Phase 1, four out of the five parking garage floors would be open for vehicular use and access to Level 5 would be blocked by bollards that could be removed for fire department/emergency access only. At completion of Phase 1, the four levels in the parking garage would provide 305 parking spaces, 49 of which would include electric vehicle (EV) charging stations, and an additional 98 would be "EV Ready," meaning conduit would be installed below the parking space surface to support future installation of additional EV charging stations. There would also be 20 surface parking

spaces along the east side of the 1005 O'Brien Drive building. Phase 1 would provide one parking space for every 476 square feet of building space (2.1 per 1,000 square feet).

Building Materials

The new buildings would be constructed using neutral-colored glass fiber reinforced concrete, reinforced metal, as well as tinted blue and clear (bird-safe) glass windows. Ceramic glass patterns would be applied to the building windows to reduce window glare, block sun/heat into the building, and reduce the potential for bird-strike occurrences.

Phase 1 Landscaping and Open Space

Under Phase 1, the Project proposes to remove ten trees, consisting of seven onsite trees and three trees from the adjacent parcel in the area of the proposed lot line adjustment. The seven onsite trees are all identified as heritage trees as defined in Menlo Park Municipal Code Chapter 13.24, Heritage Trees. The three trees on the adjacent parcel are non-heritage trees.

As shown in Figure 3-4, Phase 1 Landscape Plan, Phase 1 of the Project also includes development of approximately 38,559 square feet of open space, of which approximately 21,633 square feet would be publicly accessible. Landscaping would include planting 100 new trees. Open space would be situated along the northern and southern border of the site as well as the central portion of the site and would include the following components:

- meandering pedestrian paths/walkways,
- a main entry plaza,
- bioretention areas for stormwater,
- public gathering space,
- public seating and gathering areas,
- picnic and bistro tables,
- a sports court,
- outdoor terrace and activity space, and
- flex turf space (with emergency access).

Phase 2

Phase 2 of the Project would include:

- Demolition of the remaining western portion of the building at 1320 Willow Road (approximately 26,013 square feet);
- Construction of one R&D building at 1320 Willow Road consisting of 73,817 square feet;
- Construction of one full additional floor and one partial additional floor within the parking garage structure, resulting in a final seven-level garage with 6.5 floors of parking;

- Construction of a 200-square-foot chemical storage enclosure and solid waste/recycling enclosure south of the 1320 Willow Road building and west of the 1005 O'Brien Drive building, and installation of an emergency generator; and
- Construction of additional landscaping, open space, and designated pedestrian areas.

The remaining portion of the existing building at 1320 Willow Road would be demolished during Phase 2. Following demolition, the Project would construct an approximately 73,817-square-foot, four-story building and a 200-square-foot chemical storage enclosure, as shown in Figure 3-5, Phase 2 Construction. The building would be intended for and designed to accommodate R&D tenants. Similar to the building proposed at 1005 O'Brien Drive, the 1320 Willow Road building would also include 30 to 45 percent office space and 55 to 70 percent laboratory space. Construction of the 1320 Willow Road building would use building materials similar to the 1005 O'Brien Drive building, including neutral-colored glass fiber reinforced concrete, reinforced metal, and tinted blue and ceramic glass window patterns to reduce bird strikes. A roof deck would be constructed on the northern side of the building, to include seating areas, plants, and a trellis.

Phase 2 would also involve construction of one full additional parking garage floor and one partial additional parking garage floor, resulting in a total garage size of 172,800 square feet. Construction staging for Phase 2 would occur on parking level 5 as well as outside the parking garage, within the Project site. This would add 192 additional parking spaces to the parking garage and 3 surface parking spaces. Within the garage, there would be 29 new EV charging stations and 59 new EV Ready spaces. At the completion of Phase 2, the project would provide one parking space for every 439 square feet of building space (2.3 per 1,000 square feet).

Phase 2 Landscaping and Open Space

In Phase 2, the Project proposes to remove an additional three onsite trees, two of which are heritage trees and one is a non-heritage tree. The Project design preserves one existing tree onsite, which is a heritage tree.

As shown in Figure 3-6, Phase 2 Landscape Plan, Phase 2 includes approximately 20,785 square feet of additional open space, of which approximately 9,902 square feet would be publicly accessible, and 45 additional trees would be planted. The new open space developed during this phase would be primarily located along the northwest and western boundary of the site and would include additional walking/pedestrian pathways, public gathering spaces, a public plaza, bioretention areas, public seating areas, bike racks, and a main entry plaza to the 1320 Willow Road Building along Willow Road. The public plaza is envisioned to function as a central gathering space site within the open space area, and would consist of a concrete pad with a trellis and backdrop screening and flexible seating, suitable for picnics and similar activities.

Project Elements

Site Access

Site access is currently provided along Willow Road, on the western site boundary, and along O'Brien Drive to the south. There is limited pedestrian infrastructure in the Project area. There are existing sidewalks

along Willow Road; however, no sidewalks are present on O'Brien Drive, along the southern border of the Project site.

Vehicular access to the site is currently provided by three driveways: one on Willow Road and two off of O'Brien Drive. The Project will include one driveway on O'Brien Drive located along the west side of the proposed building at 1005 O'Brien Drive, and along the eastern property boundary the existing driveway that provides access to 1035 O'Brien Drive would be used and an internal vehicular connection would be created to allow access between the Project parking lot and the parking lot at 1035 O'Brien Drive, as shown in Figure 3-6. No change is proposed to the existing driveway off of Willow Road that provides access to the western portion of the site.

Access to the site for emergency response would occur from the three proposed driveways. The Menlo Park Fire Department would review project plans to ensure that adequate space is provided onsite for access to each building and the open space areas as well as emergency vehicle circulation and turnaround.

Parking

As described above, upon completion of Phase 2, the Project would include a 7-level parking garage with 497 parking spaces. In total, the Project would include 520 parking spaces, of which 23 would be surface parking spaces, 78 spaces would have EV charging stations, and 157 spaces would be EV Ready. The Project would provide one parking space for every 439 square feet of building space.

Enclosed long-term bicycle parking would be provided in the parking garage, as well as in both the R&D buildings. Outdoor short term bicycle parking would also be provided in the western portion of the site, west of the 1320 Willow Road building, in the southern portion of the Project site, at the southeast corner of the 1005 O'Brien Drive building, and in the northern portion of the site, north of the parking garage. In total, 48 long-term and 20 short-term bicycle parking spaces would be provided.

Landscaping

As described above, landscaping would be incorporated in both Phases 1 and 2 of the Project. Approximately 59,344 square feet of open space would be developed, of which approximately 31,535 square feet would be available and accessible to the public (Appendix H). Landscaping would be provided throughout the site including within public open spaces (e.g., flex turf space, meandering pedestrian walkways/paths, gathering/event space, and seating on benches and at tables). Drought tolerant plantings and trees would be incorporated as part of site landscaping. In addition to new plantings, public water/drinking fountains, ornamental areas with natural rocks, and games such as ping pong and cornhole would also be incorporated throughout the site.

The site would offer amenities accessible to the general public as well as amenities available only to site users. Public amenities focused along the northern site boundary would include active space (i.e., sports court and public event areas) and semi-active space (i.e., public gathering and respite areas). Additional public open space located on the south and west sides would include meditative space (i.e., strolling paths and seating areas) as well as a walking path that provides access from Willow Road on the west to the sports court area. Private amenities would include seating and tables, public gathering areas, and activity spaces, in addition to building entry plazas. Private amenities would be located between the proposed parking garage and the

building at 1005 O'Brien Drive as well as on the roof deck of the 1005 O'Brien Drive building. These private spaces would only be accessible to building tenants and visitors.

As previously discussed, the Project would remove ten existing trees from the Project site and adjacent parcel in Phase 1 and remove an additional three onsite trees in Phase 2, preserving one onsite heritage tree. Approximately 100 new trees would be planted within the site as part of Phase 1 and an additional 45 new trees would be planted onsite as part of Phase 2 as shown in Figure 3-6. Trees would be located around pedestrian walking paths, public gathering areas, within the proposed entry and public event plazas, and along the project site's frontages on O'Brien Drive and Willow Road.

Project site landscaping would be required to comply with the City's Water-Efficient Landscaping ordinance (Municipal Code Chapter 12.44), which provides criteria for water conservation, soil management, irrigation, and stormwater management. Project lighting would be incorporated for building and site security and accessibility and is required to comply with the design standards for the LS-B District (Municipal Code Section 16.44.120).

Bioretention Areas

The City of Menlo Park lies within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB) (Region 2) and the City is a co-permittee of the Municipal Regional Stormwater Permit (MRP; Order No. R2-2015-0049) and National Pollutant Discharge Elimination System (NPDES) Permit No. CAS612008. Under Provision C.3 of the MRP, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. The Proposed Project is subject to the MRP requirements because it meets the definition of a regulated project under MRP section C.3.b.ii.(3)(a).

Accordingly, the Project design incorporates bioretention areas throughout the site to provide for onsite stormwater management and treatment by collecting water runoff in vegetated areas. Approximately 4,490 square feet of stormwater treatment areas would be provided in the Phase 1 portion of the Project site, while Phase 2 would introduce an additional 1,020 square feet of stormwater treatment areas (Appendix H). These bioretention areas would be designed as vegetated basins and swales incorporated into the landscaping along the Project site frontages on O'Brien Drive (Phase 1) and Willow Road (Phase 2). A Hydrology Report was prepared for each of the two Project phases; these reports are provided in Appendix E to the Initial Study, which was made available for public review at the time the Notice of Preparation for this EIR was circulated. The size and design of these areas were determined based on the size of the drainage basin each serves and the extent of impervious surfaces within that basin, and each would be sized slightly larger than the required size under the San Mateo County C.3 Manual guidelines (Appendix E and Appendix H).

Lighting

Project lighting would be incorporated for building and site security and accessibility. Exterior building lights would be angled downward to prevent light pollution onto sensitive receptors, while security lighting throughout the site may consist of lighted pathways and gathering areas. Project site lighting must comply

with the design standards for the LS-B District (Municipal Code Section 16.44.120), which require, in part, that lighting be designed to a pedestrian scale, that light fixtures be placed no more than 40 feet apart, that parking areas be well lit for safety, and that lighting fixtures and sources be energy efficient.

Public Service and Utility Infrastructure

The Project would include connections to existing and planned infrastructure within the Project vicinity. Utility connections would extend from the public right-of-way to the interior of the Project site.

- **Water Supply** - Potable water service to the Project site is provided by Menlo Park Municipal Water. The Project would connect to a new 12-inch water line that will be installed in O'Brien Drive as part of a recently approved redevelopment project at 1350 Adams Court. Separate connections would be made for fire service and domestic water. The new fire service connections include backflow preventers and each new structure (two R&D buildings and the parking garage) would include two sprinkler risers. In addition, purple pipe would be installed for connection to future recycled water service when it becomes available. The Project is anticipated to result in a total water demand of 20,245 gallons per day (gpd) of potable water, which includes 13,585 gpd under Phase 1 and an additional 6,660 gpd with completion of Phase 2. Menlo Park Municipal Code Section 16.44.130(3)(C) requires submittal of a water budget and calculations prior to certificate of occupancy, and verification of compliance with the water budget after one year of occupancy. A standard condition of approval will require compliance with Municipal Code Section 16.44.130(3)(C).
- **Wastewater** - Wastewater collection and conveyance to and from the Project site is provided by West Bay Sanitary District. The Project would tie into the existing 18-inch sanitary sewer line in O'Brien Drive and the existing 8-inch sanitary sewer line in Willow Road. The Project is estimated to generate 11,696 gpd of wastewater, which includes 7,906 gpd under Phase 1 and an additional 3,790 gpd under Phase 2.
- **Storm Drainage and Stormwater Quality** - The Project site contains existing stormwater infrastructure that collects runoff from paved parking areas, building surfaces, and hardscape areas and discharges directly into existing storm drain mains. Approximately 98% of the Project site is currently covered with impervious surfaces (179,825 square feet) and the Project would reduce the extent of impervious surfaces by approximately 32,966 square feet to 80% of the Project site. Stormwater and water runoff generated at the Project site would be drained by a new on-site storm drain system, which is required to meet stormwater quality control requirements outlined in the C.3 Regulated Projects Guide of the San Mateo County Water Pollution Prevention Program. Additionally, the Project would incorporate green infrastructure and stormwater treatment measures (i.e., bioretention basins, planters) within landscaped portions of the Project's off-site frontages that would treat runoff within the public right-of-way in compliance with Menlo Park Municipal Code Section 16.44.120.
- **Electricity and Natural Gas** - The Project site is served by Pacific Gas and Electric Company (PG&E) for electrical service and natural gas. There is an existing 2-inch natural gas line within Willow Road and an existing electric line located off of Willow Road. The Project would include construction of a new underground electrical system connecting to the existing service on Willow Road. The Project would also connect to the existing natural gas line to accommodate the proposed use of natural gas for building heating.

Sustainable Project Features

The following sustainable features would be part of the Proposed Project:

- 5-kilowatt rooftop photovoltaic system on the 1005 O'Brien Drive building
- 1005 O'Brien Drive Building would achieve LEED Gold, 1320 Willow Road Building would achieve LEED Silver
- High-efficiency (LED) lighting
- Outlets for charging EVs
- Low volatile organic compound-emitting coatings and sealants
- Enhanced ventilation, filtration, and cleaning protocols for better indoor environmental quality
- Transportation Demand Management Program
- 100% renewable electric power
- Purchase of certified renewable energy credits or offsets for use of natural for space conditioning, appliances, or laboratory equipment
- Dual plumbed for use of recycled water when it becomes available
- Bioswales and on-site water infiltration to reduce stormwater runoff
- Low-water native plantings
- Zero-waste management plan

Project Construction

All existing buildings on the Project site (1320 Willow Road, 985 O'Brien Drive, and 1001 O'Brien Drive) as well as site pavement would be demolished, and approximately 4.52 acres of the Project site would be graded (3.17 for Phase 1, 1.35 for Phase 2). Construction debris, such as concrete building foundations, asphalt pavement, and building materials, would be collected and hauled off site for disposal in accordance with Chapter 12.48 of the Menlo Park Municipal Code which establishes landfill diversion requirements for construction and demolition debris. Approximately 5,500 tons of demolition waste would be generated by the Project.

Up to 2,190 cubic yards of soils would be removed from the Project site for excavation, utility trenching, and foundations. A total of 8,770 cubic yards of soils would be imported to the Project site to raise the site elevation 2 feet above the base flood elevation (6,150 cubic yards for Phase 1 and 2,620 cubic yards for Phase 2). Excavation would be needed for construction of bioretention areas, which would typically be approximately 3 feet below the final floor elevation for each building, and for installation of elevator pits, which would typically be up to 5 feet below grade. Excavation would also occur when auger cast piles are drilled. These would extend approximately 85 feet below grade and for construction of the foundation mat slab. Impact pile driving would not be required.

Construction staging would take place within the confines of each respective component; however, if a portion of the Project is not under construction, that component could be used for staging, which would include material and equipment storage, and construction trailer parking.

Construction fencing would be installed around the perimeter of each phase during its construction to prevent pedestrian and non-construction-related vehicle access. As aspects of the Project are completed, the construction fencing may be reduced to encompass only the parts of the site that remain under construction.

Construction Schedule

If approved, construction of Phase 1 of the Project is anticipated to begin immediately after Project approval and would last approximately 21 months. Phase 2 is anticipated to begin after the completion of Phase 1. However, an existing business would continue to occupy 1320 Willow Road for the duration of Phase 1 and could remain in place through 2034. Phase 2 could therefore begin as late as 2034. Phase 2 construction would occur over a duration of 15 months.

In Phase 1, building demolition is expected to require approximately 30 work days, followed by 10 days of site preparation (e.g., clearing and grubbing), then 30 days of grading, and 300 days of building construction. This phase would be completed with paving and application of architectural coatings requiring 20 days.

Under Phase 2, demolition of the remaining portion of the building on Willow Road is expected to require approximately 20 days, followed by 5 days of site preparation and 20 days of grading. Construction of the new Willow Road building and two additional levels of the parking garage would require 230 days. The first four levels of the garage would remain available for tenant and visitor use during Phase 2 construction. The surface parking lot and vehicle drive aisles would be resurfaced, requiring 15 days. Application of architectural coatings would require 15 days.

3.5 Discretionary Actions and Use of This EIR

City Approvals

As lead agency for consideration of the Proposed Project, the City would be responsible for many of the approvals required for Project development. The Project would require the following City discretionary approvals:

- **Use Permit.** Use permit for bonus-level development, per Menlo Park Municipal Code Chapter 16.82, and for the use and storage of hazardous materials for two diesel generators.
- **Architectural Control.** Per Menlo Park Municipal Code Chapter 16.68, architectural control review and approval of the specific building design.
- **Vesting Tentative Map and Lot Line Adjustment.** Pursuant to the Subdivision Map Act regulations, the existing three parcels would be merged and resubdivided into two parcels for the two Project phases, and the boundary along the southeastern portion of the Project site would be relocated to align the property line perpendicular to O'Brien Drive.
- **Development Agreement.** The City and Project sponsor may enter into a Development Agreement to allow for vested rights in exchange for negotiated community benefits beyond the minimum required community amenity value and City requirements.

- **Heritage Tree Removal Permit.** A tree removal permit would be required for each heritage tree proposed for removal, per Menlo Park Municipal Code Section 13.24.040.
- **Community Amenity Approval.** Planning Commission approval of the proposed community amenity in-lieu fee payment as required by Menlo Park Municipal Code Section 16.44.070 to allow for bonus-level development within the LS-B zoning district.
- **Below-Market-Rate Housing In-Lieu Fee Approval.** Planning Commission approval of payment of the Below-Market-Rate Housing Program in-lieu fees per Menlo Park Municipal Code Section 16.96.03.
- **Environmental Review.** Certification of a focused EIR, with approval of a Mitigation Monitoring and Reporting Program (MMRP) and possibly adoption of a Statement of Overriding Considerations if significant impacts are identified that cannot be mitigated to less-than-significant levels.

Responsible and Trustee Agencies

Section 21104 of the California Public Resources Code requires that all EIRs be reviewed by state responsible and trustee agencies (see also 14 CCR 15082 and 15086[a]). As defined by CEQA Guidelines Section 15381, “the term ‘Responsible Agency’ includes all public agencies other than the Lead Agency which have discretionary approval power over the project.” A trustee agency is defined in CEQA Guidelines Section 15386 as “a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California. As of the date of this Draft EIR the City has determined that the Proposed Project would have no effects on resources within the jurisdiction of any trustee agencies thus there are no applicable trustee agencies that would have discretionary approval authority for the Project.

Other Agency and Service District Reviews and Approvals

This EIR may be used by other agencies and service districts that have some approval authority over the Proposed Project (e.g., to issue a permit). The Project sponsor would obtain all permits, as required by law. The following list identifies the other agencies and service districts that may rely on this EIR when considering the Proposed Project and the general review and potential approval responsibilities for each entity.

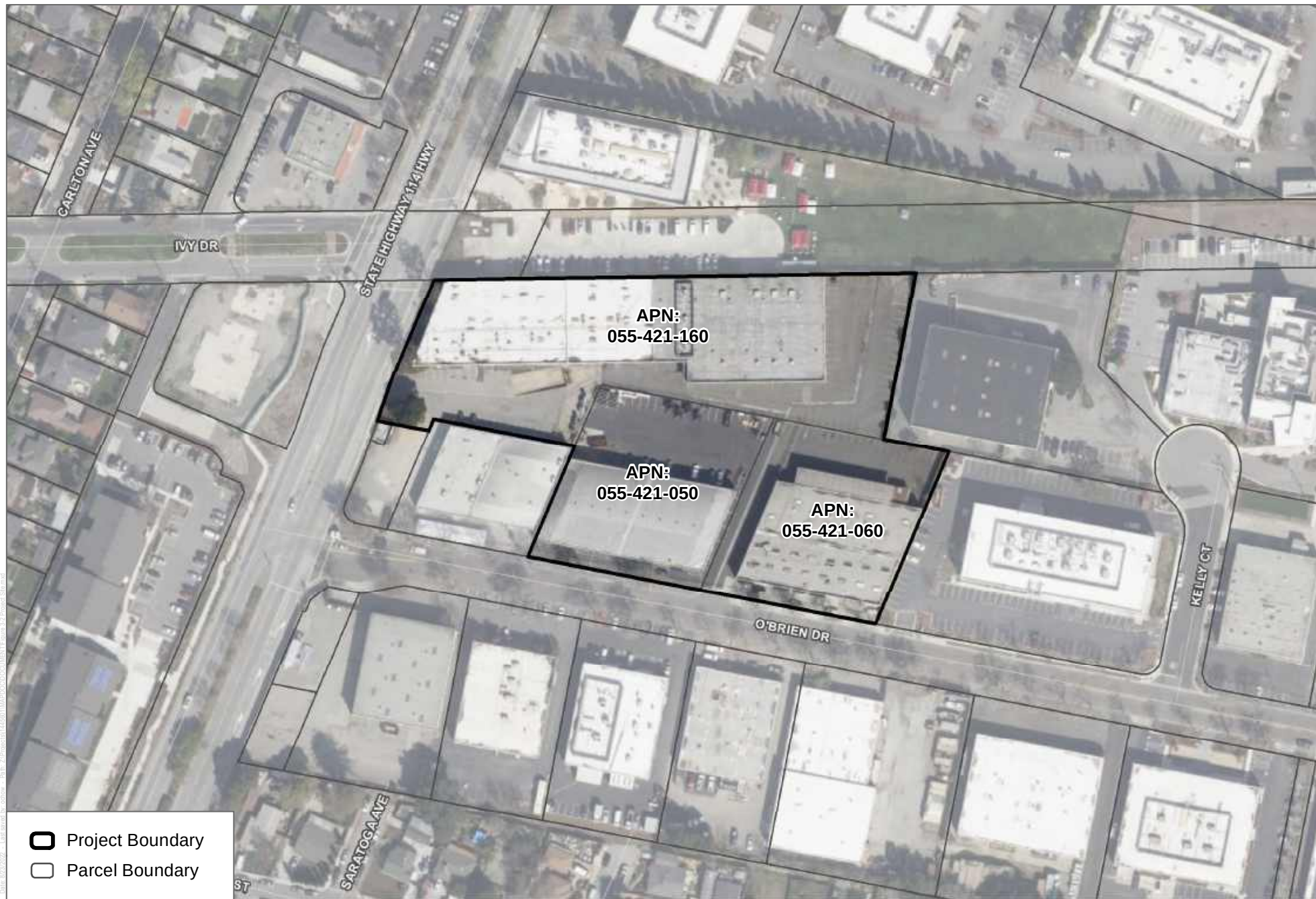
- Bay Area Air District: Permit for asbestos removal during demolition; permit for on-site generators;
- California Department of Transportation: Review of traffic circulation effects and consultation on potential traffic improvements that may affect state highway facilities, ramps, and intersections;
- California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program: Approval of National Pollutant Discharge Elimination System permit for stormwater discharge;
- City/County Association of Governments of San Mateo County: Review of potential effects on Routes of Regional Significance;
- Menlo Park Fire Protection District: Site Plan Review;
- Menlo Park Municipal Water: Approval of water hookups;
- PG&E: Approval of electric/natural gas improvements and connection permits;

- San Francisco Public Utilities Commission: Approval for encroachment into Hetch Hetchy aqueduct right-of-way, if necessary based on final Project design and construction plans; no such encroachment is currently anticipated;
- San Mateo County Environmental Health Services Division: Review of on-site generators; permitting under the Medical Waste Management Act;
- San Mateo County Transportation Authority: Review of potential effects on public transit;
- San Mateo County Water Pollution Prevention Program: C.3 and C.6 Development Review Checklist; and
- West Bay Sanitary District: Approval of wastewater hookups.

3.6 References Cited

Federal Emergency Management Agency. National Flood Hazard Layer FIRMette. Accessed September 28, 2022. Available: <https://www.fema.gov/flood-maps/national-flood-hazard-layer>

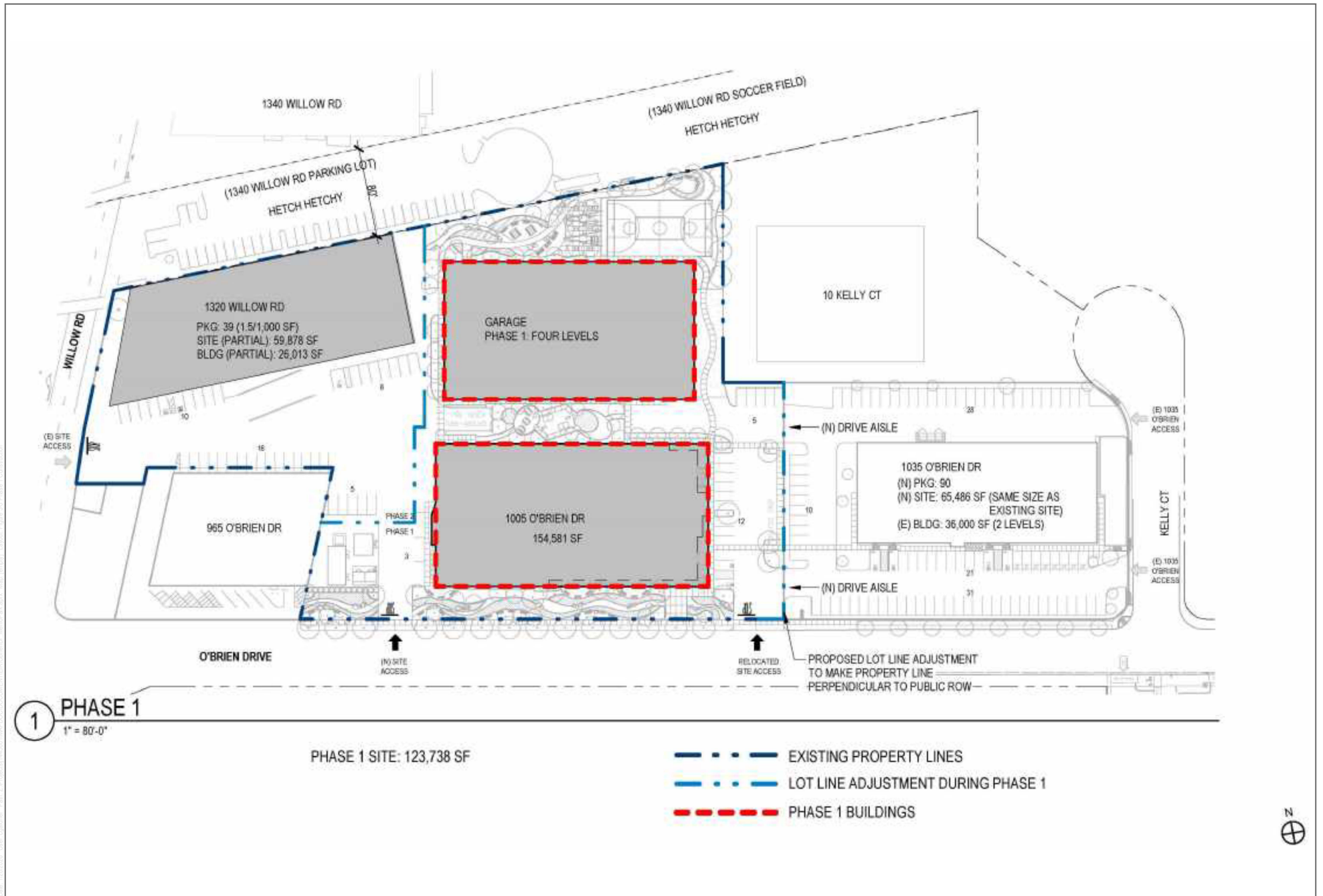
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SOURCE: Bing Imagery 2021, City of Menlo Park 2020

FIGURE 3-2
Project Site

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SOURCE: DES, 2023

DUDEK



0 330 660 Feet

FIGURE 3-3
Phase 1 Construction
 1005 O'Brien Drive/1320 Willow Road Life Sciences/R&D Project

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KEY NOTES:

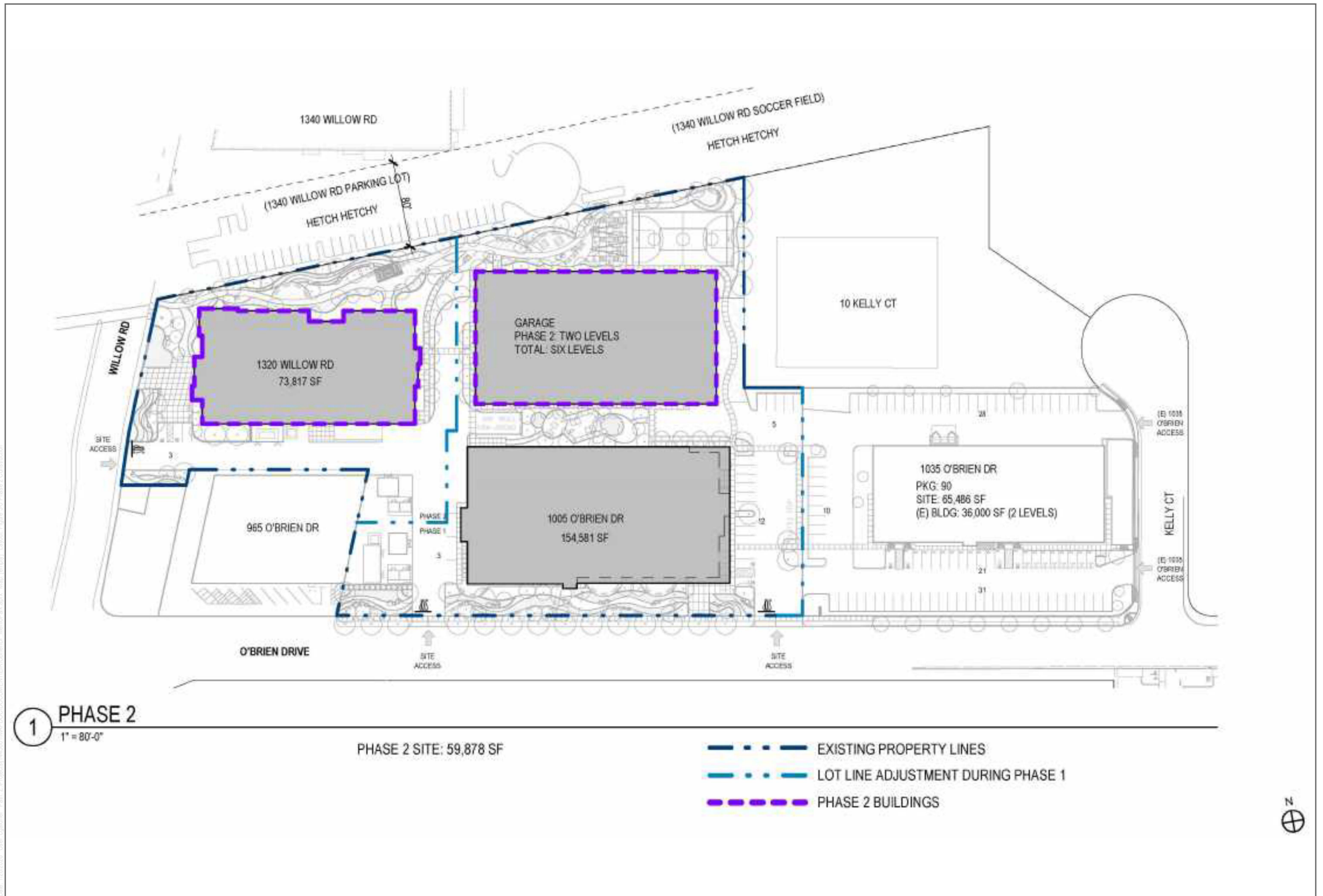
- 1 CANOPY TREE
- 2 ACCENT TREE
- 3 STREET TREE
- 4 SCREEN HEDGES
- 5 BIORETENTION AREA
- 6 COBBLE CREEK WITH BOULDERS
- 7 THEMED PLANTING STRIPS
- 8 PUBLIC GATHERING SPACE
- 9 PUBLIC EVENT PLAZA
- 10 STROLLING PATH
- 11 PUBLIC RESPITE SPACE WITH BENCHES
- 12 SMALL GROUP GATHERING SPACE
- 13 MAIN ENTRY PLAZA
- 14 BIKE RACKS
- 15 OUTDOOR DINING TERRACE
- 16 OUTDOOR ACTIVITY SPACE
- 17 FLEX TURF SPACE AND DRIVABLE SURFACE FOR FIRE TRUCK ACCESS
- 18 CATENARY LIGHT
- 19 DRINKING FOUNTAIN

MATERIAL KEY:

- CONCRETE PAVING
- DECOMPOSED GRANITE PATHS/PAVING, TYP.
- FLAGSTONE PAVING, TYP.

SOURCE: DES, 2022

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SOURCE: DES, 2023

DUDEK



0 330 660 Feet

FIGURE 3-5
Phase 2 Construction
1005 O'Brien Drive/1320 Willow Road Life Sciences/R&D Project

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KEY NOTES:

- 1 CANOPY TREE
- 2 ACCENT TREE
- 3 STREET TREE
- 4 SCREEN HEDGES
- 5 BIORETENTION AREA
- 6 COBBLE CREEK WITH BOULDERS
- 7 THEMED PLANTING STRIPS
- 8 PUBLIC GATHERING SPACE
- 9 PUBLIC EVENT PLAZA
- 10 STROLLING PATH
- 11 PUBLIC RESPITE SPACE
- 12 SMALL GROUP GATHERING SPACE
- 13 MAIN ENTRY PLAZA
- 14 BIKE RACKS
- 15 OUTDOOR DINING TERRACE
- 16 OUTDOOR ACTIVITY SPACE
- 17 FLEX TURF SPACE AND DRIVABLE SURFACE FOR FIRE TRUCK ACCESS
- 18 CATENARY LIGHT
- 19 DRINKING FOUNTAIN
- 20 TRASH RECEPTACLES (SOLID WASTE/RECYCLING/COMPOST)
- 21 TRELLIS

MATERIAL KEY:

- CONCRETE PAVING
- DECOMPOSED GRANITE PATHS/PAVING, TYP.
- FLAGSTONE PAVING, TYP.

Phase 2 Project - 11/15/2022 - 11/15/2022 - 11/15/2022

SOURCE: DES, 2022

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4.0 Environmental Analysis

The purpose of this draft environmental impact report (EIR) is to evaluate the potential environmental effects of the 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project). The City of Menlo Park (City) circulated a Notice of Preparation (NOP) for public comment between June 2 and July 5, 2023. A public scoping session was held as part of the Planning Commission meeting on June 26, 2023. The NOP was transmitted to the State Clearinghouse, responsible agencies, other affected agencies, and other public and private potential stakeholders to solicit feedback regarding the scope of the environmental analysis to be addressed in the Project's Draft EIR. An Initial Study was also made available for review at the time that the NOP was circulated. The Initial Study provides analysis of the Project's potential impacts and identifies impacts that were determined to remain less than significant or less than significant with incorporation of mitigation measures (MMs) and thus did not require further evaluation in the EIR. The City received nine comment letters in response to the NOP, with one being from a native American tribe and three being from public agencies. The NOP is provided in Appendix G1 to this EIR, the Initial Study is provided in Appendix G2, and the NOP comment letters are provided in Appendix G3.

Sections 4.1 through 4.7 of this Draft EIR contain the potential environmental impacts analysis associated with implementation of the Project, and focus on the following issues:

- Section 4.1 – Air Quality
- Section 4.2 – Greenhouse Gas Emissions
- Section 4.3 – Hazards and Hazardous Materials
- Section 4.4 – Noise
- Section 4.5 – Population and Housing
- Section 4.6 – Transportation
- Section 4.7 – Tribal Cultural Resources

Cumulative Scenario

Each of the environmental impact analysis sections includes consideration of the Project's potential contribution to significant cumulative impacts to the environmental resources addressed in that section. **Cumulative impacts** refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or several separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the Project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

The cumulative impacts analysis in each of the environmental impact analysis sections includes a definition of the geographic range in which cumulative impacts are considered, a summary of applicable cumulative impacts analysis and conclusions from the ConnectMenlo EIR and other prior environmental impact analyses documents, and a discussion of the Project's contribution to cumulative impacts.

The geographic range for consideration of cumulative impacts varies by resource area. In many cases the consideration of cumulative impacts is limited to the City limits, or may be limited to just the Bayfront area of the City. In other cases, the geographic range may include other surrounding areas, such as the remainder of San Mateo County and nearby portions of Santa Clara County. The specific geographic range for consideration of cumulative impacts is stated in the cumulative impact analysis for each environmental resource topic.

Buildout Horizon

The ConnectMenlo Final EIR assumed a buildout horizon of 2040. The traffic model used to evaluate cumulative transportation conditions also assumes a horizon year of 2040. Land use growth assumptions for Bay Area regions outside of the Menlo Park year 2040 model land use data are provided by the Association of Bay Area Governments (ABAG) and refined by the Santa Clara Valley Transportation Authority and the San Mateo City/County Association of Governments.

Given the development applications that the City has already received, it is likely that buildout of the residential uses anticipated under the General Plan will be reached prior to 2040. The environmental impact analysis presented in the ConnectMenlo Final EIR evaluated the maximum development potential that could occur and did not consider phased buildout of the development potential; therefore, no new or additional impacts are anticipated as a result of the expedited buildout. Other regional planning efforts undertaken after adoption of ConnectMenlo, such as Plan Bay Area 2050 and the Menlo Park Municipal Water Urban Water Management Plan 2020, have reflected both the current pace of development and full buildout of ConnectMenlo where relevant to each planning document.

Citywide Buildout

Where the geographic range for cumulative impacts is defined as the City limits or the Bayfront Area, the cumulative development scenario is considered to be buildout of the City's General Plan, as described in the ConnectMenlo EIR. Additionally, the cumulative analysis for transportation and noise also includes consideration of specific projects within the City that are under construction, have been recently approved, or are currently undergoing environmental review.

The ConnectMenlo EIR evaluated a General Plan buildout scenario that included potential new development in the Bayfront Area as reflected in the ConnectMenlo General Plan Update in combination with the remaining and previously approved buildout potential in the prior General Plan that was reaffirmed and included in the cumulative development scenario under the ConnectMenlo General Plan Update. Specifically, the ConnectMenlo EIR defined the cumulative 2040 buildout horizon to include the following new development compared to the existing conditions at the time the ConnectMenlo EIR was prepared, as shown in Table 4-2 of the ConnectMenlo EIR:

- 6 million square feet of non-residential space,
- 920 hotel rooms,
- 6,780 residential units (within the Bayfront Area, this included 780 multi-family units that were already pending, approved, or under construction, 3,000 additional multi-family units anticipated

under the ConnectMenlo General Plan Update, and 1,500 new units of corporate campus residential anticipated under the ConnectMenlo General Plan Update),

- 17,450 residents (based on an average of 2.57 persons per household, as reflected in the Association of Bay Area Governments (ABAG) *Projections 2013, Subregional Study Area Table*); and
- 22,350 employees.

The Proposed Project is consistent with the land use designation for the Project site as established under ConnectMenlo. The analysis and conclusions of the ConnectMenlo EIR remain valid and applicable for streamlining the project-specific analysis for non-residential projects. The development applications that the City has received to-date would allow construction of more multi-family dwelling units than were assumed in the ConnectMenlo EIR. Where an individual project would cause the City to exceed the assumed number of multi-family units, the City has prepared additional project-specific environmental analysis and has incorporated these projects in the City's transportation model.

Specific Menlo Park Projects

As noted above, the cumulative impact analysis of transportation and noise considers the following specific projects within the City that are under construction, have been recently approved, or are currently undergoing environmental review as of August 2023 (following the NOP public comment period). Several of these projects were included in the ConnectMenlo EIR cumulative analysis, either as specific individual projects or because they are consistent with the land use and zoning designations applied to the subject property under ConnectMenlo. Thus, they are reflected in the impact analysis throughout this EIR where the ConnectMenlo EIR analysis has been incorporated by reference.

Belle Haven Community Campus (formerly Menlo Park Community Campus) – approved redevelopment of the Onetta Harris Community Center, Menlo Park Senior Center, and Belle Haven Youth Center, which includes a multi-generational community center and library . The Belle Haven Community Campus project includes 37,000 square feet of floor space on two levels, and will incorporate a public gymnasium, senior center, branch library, aquatics center, youth center (school-age child care), fitness center, makerspace, meeting rooms, and event hall, among other features.

Middle Plaza at 500 El Camino Real – approved redevelopment of an 8.4-acre site with approximately 10,286 square feet of retail/restaurant, 142,840 square feet of non-medical office, and 215 residential units.

Springline – approved redevelopment of a 6.4-acre site on El Camino Real and Oak Grove Avenue with approximately 220,000 square feet of commercial uses and 183 dwelling units.

1030 O'Brien Drive – proposed three-story R&D building with approximately 67,700 square feet to replace two existing office/industrial buildings. Subsequent to commencement of preparation of this EIR, the application for this project has been withdrawn, however it is included here because it was included in the traffic modeling used to prepare this EIR's transportation impacts analysis.

1125 O'Brien Drive – proposed 131,285 square feet five-story R&D building with an approximately 2,760 square foot café, a surface parking lot and pedestrian plaza to replace existing buildings.

3705 Haven Avenue – proposed construction of an eight-story 99-unit multi-family residential apartment development.

1704 El Camino Real – proposed replacement of a 28-room hotel with a 70-room hotel.

Sharon Heights Golf and Country Club Improvements – proposed golf course improvements including grading changes, irrigation improvements, new pathways and landscaping and construction of a new solar array system and parking areas.

1350 Adams Court - approved five-story R&D building with up to 260,400 square feet.

Commonwealth Building 3 – proposed 249,500 square-foot four-story office building and five-story parking structure.

CSBio 3 – proposed 126,291 square-foot seven-story office and R&D building and five-story parking structure.

Hotel Moxxy – approved demolition of a non-medical office building and construction of a 163-room eight-story 58,000 square-foot hotel.

Menlo Flats – approved redevelopment of three parcels totaling 1.38 acres with approximately 158 multi-family dwelling units, 13,400 square feet of office space, and 1,600 square feet of commercial space.

Parkline – proposed redevelopment of an approximately 63.2-acre site with 450 new rental housing units (apartments and townhomes), 25 acres of open space, replacement of nearly 1.1 million square feet of outdated research buildings with five sustainable office/R&D/life science buildings, and a new amenity building for workers, new community-oriented retail and recreational opportunities, and other updates to SRI International's research campus.

Willow Village – approved redevelopment of the former Menlo Science and Technology Park with up to 200,00 square feet of retail, 1,729 housing units, a 193-room hotel, 1,250,000 square feet of offices, and 350,000 square feet of accessory, meeting, and conference space for Meta.

111 Independence Drive – approved redevelopment of the site with approximately 105 multi-family dwelling units and an approximately 746 square foot café space in one building with an above grade multi-story parking garage integrated into the proposed eight-story building.

123 Independence Drive – approved redevelopment of five parcels with approximately 116 townhomes and 316 apartments on an 8.15-acre site.

201 El Camino Real and 612 Cambridge Avenue – approved redevelopment of three parcels into a mixed-use project with 14 dwelling units, 1,200 square foot restaurant, and 5,876 square feet of retail space.

CitizenM Hotel– approved construction of a 90,868 square foot five story hotel on a portion of the Facebook West Campus. The hotel would include 240 rooms, a restaurant, and hotel amenities.

Menlo Portal – approved redevelopment of three parcels with approximately 320 multi-family rental units, 33,100 square feet of office space, and 1,608 square feet of commercial space on a 3.20-acre site.

Menlo Uptown – approved construction of 483 multi-family units, including 441 rental units, 42 townhomes, and 2,000 square feet of commercial space.

115 El Camino Real – approved redevelopment of a 9,329 square foot parcel with a mixed-use development consisting of two commercial condominiums for retail, personal service, or non-medical office uses with four residential condominiums on the second and third floors.

Facebook Campus Expansion – approved redevelopment of 300-309 Constitution Drive with two new office buildings totaling 962,400 square feet and publicly accessible open space.

Projects Outside of Menlo Park

At the time that the ConnectMenlo EIR was prepared, there was a moratorium on new or expanded water service connections in the City of East Palo Alto due to water supply constraints. For that reason, the ConnectMenlo EIR did not consider East Palo Alto projects in the cumulative scenario. However, in 2018, the City of East Palo Alto secured a permanent additional water supply via an agreement with the City of Palo Alto, which allowed the City of East Palo Alto to lift the water connection moratorium and proceed with processing development applications. Thus, for environmental resource areas where the geographic range for cumulative impacts includes nearby portions of San Mateo County, development projects that are under construction, approved, or pending in East Palo Alto are considered in the cumulative impact analysis. Additionally, as noted previously, specific projects in the cities of Palo Alto and East Palo Alto are reflected in the traffic modeling used to support the analysis of cumulative transportation conditions. Where the geographic context for the cumulative impact analysis includes areas outside of Menlo Park, the following projects have been considered:

- 717 Donohoe Street
- Ravenswood Specific Plan
- 2850 W. Bayshore
- 200 Portage Avenue
- 123 Sherman Avenue
- 231 Grant Avenue
- 2951 El Camino Real
- 3300 El Camino Real
- 3150 El Camino Real
- 525 E. Charleston
- 4333/4335 El Camino Real
- 300 Lambert Avenue
- 3200 Park Boulevard
- 800 San Antonio Road
- 3997 Fabian Way
- 824 San Antonio
- 70 Encina Avenue
- 660 University Avenue
- KIPP School
- Woodland Park Euclid Improvements
- Glory Mobile Home Park Conversion
- University Corner
- 865 Weeks Street
- East Palo Alto Waterfront Project
- Four Corners
- 1804 Bay Road
- 2020 Bay Road
- The Landing at EPA
- The Sobrato Office Project
- JobTrain Office Project
- University Circle Phase II

Technical Studies

A variety of technical studies were used to support the analysis in the Initial Study and the analysis in this EIR. As noted in Chapter 2, Introduction, these include the following:

- Appendix A1: Biological Resources Assessment
- Appendix A2: Tree Survey Report
- Appendix B: Built Environment Inventory and Evaluation Report
- Appendix C: CalEEMod Data Energy
- Appendix D: Phase I and II Environmental Site Assessment
- Appendix E: Hydrology Reports
- Appendix F: Zero Waste Management Plan
- Appendix G1: NOP
- Appendix G2: Initial Study
- Appendix G3: NOP Comments
- Appendix H: Project Plans (November 2025)
- Appendix I: Air Quality and Greenhouse Gas Emissions Modeling Data and Documents
- Appendix J: Construction Health Risk Assessment Parameters
- Appendix K: Noise Calculations
- Appendix L: Housing Needs Assessment
- Appendix M1: Transportation Impact Analysis
- Appendix M2: Transportation Demand Management Memorandum

These documents are identified in the discussions for the individual environmental issues and are available for review on the City's webpage for this Project. They are also available on a flash drive attached to hard copies of the Draft EIR available for review at City Hall and the Belle Haven Community Campus library. All technical reports that were submitted by the Project Sponsor have been reviewed by the City and/or EIR consultant to confirm the appropriateness of any assumptions, methodology, and conclusions and reliance on these reports to support the analysis in this Draft EIR.

Analysis Format

The Draft EIR assesses how the Project would impact each of the above-listed resource areas. Each environmental issue addressed in this Draft EIR is presented in terms of the following subsections:

- **Environmental Setting:** Provides information describing the existing setting on and/or surrounding the Project site that may be subject to change as a result of implementation of the Project. This setting discussion describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse.
- **Regulatory Framework:** Provides a discussion of federal, state, regional, and local regulations, plans, policies, and ordinances applicable to the Project.

- **Thresholds of Significance:** Provides criteria for determining the significance of Project impacts for each environmental issue.
- **Impacts and Mitigation Measures:** Provides a discussion of the characteristics of the Project that may have an impact on the environment, analyzes the nature and extent to which the Project is expected to change the existing environment, analyzes the nature and extent to which the Project may contribute to cumulative environmental effects, indicates whether the Project's impacts would meet or exceed the levels of significance thresholds, identifies MMs to reduce significant adverse impacts to the extent feasible, and identifies the level of impact significance after implementation of MMs.
- **References Cited:** Lists the sources cited in each EIR section.

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4.1 Air Quality

This section describes the existing air quality conditions of the proposed 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts from implementation of the Project, and identifies mitigation measures (MMs) necessary to reduce impacts to less-than-significant levels.

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR) in June 2023. One of the comment letters received in response to the NOP identified a concern with potential human health effects due to pollutants in emissions from materials used in the laboratory spaces within the proposed R&D buildings. This issue is addressed in Section 4.3, Hazards and Hazardous Materials, which explains that the Project would comply with all applicable federal, State, and local standards discussed in Section 4.3.2, including implementation of containment measures in building design and building tenants development of biosafety plans. The NOP and the comments received in response to it are provided in Appendix G of this EIR.

Information contained in this section is based on the latest version of California Emissions Estimator Model (CalEEMod), Version 2022.1.1.16, to estimate the Project's criteria air pollutant emissions from both construction and operations. In addition, a Health Risk Assessment (HRA) was performed to determine the potential cancer risk and non-cancer health impacts to existing sensitive residential receptors in proximity to the Project due to toxic air contaminant (TAC) emissions from construction activities using the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) Version 19191 and the Hotspots Analysis and Reporting Program Version 2 (HARP2). For the relevant data, refer to the following appendices:

Appendix I Air Quality and Greenhouse Gas Emissions, prepared by Dudek

Appendix J Construction HRA Data, prepared by Dudek

The primary sources reviewed to prepare this section include the Transportation Impact Analysis (Appendix M1), the Bay Area Air District (BAAD)¹ CEQA Air Quality Guidelines, and the California Office of Environmental Health Hazards Assessment's (OEHHA) 2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Other sources consulted are listed in Section 4.1.5, References Cited.

4.1.1 Environmental Setting

The Project site is located within the boundaries of the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB encompasses all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, as well as the southern portions of Solano and Sonoma Counties.

¹ The Bay Area Air Quality Management District (BAAQMD) changed its name to the Bay Area Air District (BAAD) in January 2025.

Climate and Meteorology

Air quality is a function of the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants and consequently affect air quality.

The climate of the SFBAAB is determined largely by a high-pressure system that is usually present over the eastern Pacific Ocean off the west coast of North America. During winter, the Pacific high-pressure system shifts southward, allowing more storms to pass through the region. During summer and early fall, when few storms pass through the region, emissions generated within the San Francisco Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants, such as ozone (O₃), and secondary particulates, such as nitrates and sulfates.

The Project site is located in the Santa Clara Valley climatological subregion. Specific conditions for the subregion are described in the BAAD CEQA Air Quality Guidelines (BAAQMD 2023). Throughout the SFBAAB, the highest air pollutant concentrations typically occur during temperature inversions, which is when a layer of warmer air overlies a layer of cooler air. This traps and concentrates pollutants near the ground. Temperature inversions commonly occur in the SFBAAB during summer and winter months (BAAQMD 2023). The air pollution potential of the Santa Clara Valley is high. Warm summer temperatures, stable air, and mountains surrounding the valley combine to promote O₃ formation. In addition to the many local sources of pollution, O₃ precursors from San Francisco, San Mateo, and Alameda Counties are carried by prevailing winds into the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, O₃ can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwesterly winds in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of CO and particulate matter. This movement of the air up and down the valley significantly increases the impact of the pollutants (BAAQMD 2023).

Regional Meteorological Conditions

The local climate in San Mateo County is characterized as cool and foggy which is prevalent along the western coast of the peninsula, particularly during the summer. Summertime average daily temperatures are moderate along the west coast and warm in the county's east side. In the winter, average daily temperatures across the county range from mild to moderate. Winds are mild, with the highest wind speeds focused along the western coast. Rainfall averages approximately 20 to 25 inches per year at lower elevations (BAAQMD 2019).

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The national and California standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to

protect the most sensitive people from illness or discomfort. Pollutants of concern include O₃, nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}), and lead. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants. These pollutants, as well as TACs, are discussed in the following paragraphs.²

Ozone. O₃ is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O₃ precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs) (also termed reactive organic gas [ROG]). The maximum effects of precursor emissions on O₃ concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O₃ formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ exists in the upper atmosphere O₃ layer (stratospheric O₃) and at the Earth's surface in the troposphere (ground-level O₃).³ The O₃ that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O₃ is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O₃. Stratospheric, or "good," O₃ occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O₃ layer, plant and animal life would be seriously harmed.

O₃ in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013).

Inhalation of O₃ causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O₃ can reduce the volume of air that the lungs breathe in, thereby causing shortness of breath. O₃ in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O₃ exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O₃ exposure. While there are relatively few studies on the effects of O₃ on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O₃ and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health

² The descriptions of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's "Criteria Air Pollutants" (EPA 2022a), as well as the California Air Resources Board's "Glossary" (CARB 2019a) and "Fact Sheet: Air Pollution Sources, Effects and Control" (CARB 2009).

³ The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

effects in children and adults. Children, adolescents and adults who exercise or work outdoors, where O₃ concentrations are the highest, are at the greatest risk of harm from this pollutant.

Nitrogen Dioxide. NO₂ is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O₃. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016).

A large body of health science literature indicates that exposure to NO₂ can induce adverse health effects. The strongest health evidence, and the health basis for the ambient air quality standards for NO₂, results from controlled human exposure studies that show that NO₂ exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO₂ exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses. Infants and children are particularly at risk because they have disproportionately higher exposure to NO₂ than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO₂ exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher levels of exposure compared to children with lower exposure levels. In addition, children with asthma have a greater degree of airway responsiveness compared with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB 2019b).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

CO is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion and reduced mental alertness, light-headedness, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Unborn babies, infants,

elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB 2019c).

Sulfur Dioxide. SO₂ is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO₂ exposure, compared with the non-asthmatic population. Effects at levels near the 1-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath, and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO₂ (above 1 parts per million [ppm]) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. Older people and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects (CARB 2019d).

SO₂ is of concern both because it is a direct respiratory irritant and because it contributes to the formation of sulfate and sulfuric acid in particulate matter (NRC 2005). People with asthma are of particular concern, both because they have increased baseline airflow resistance and because their SO₂-induced increase in airflow resistance is greater than in healthy people, and it increases with the severity of their asthma (NRC 2005). SO₂ is thought to induce airway constriction via neural reflexes involving irritant receptors in the airways (NRC 2005).

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Coarse particulate matter (PM₁₀) consists of particulate matter that is 10 microns or less in diameter, which is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter (PM_{2.5}) consists of particulate matter that is 2.5 microns or less in diameter, which is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as

chlorides or ammonium into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

A number of adverse health effects have been associated with exposure to both PM_{2.5} and PM₁₀. For PM_{2.5}, short-term exposures (up to 24-hour duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, PM_{2.5} is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and worldwide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM₁₀ have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB 2022).

Long-term exposure (months to years) to PM_{2.5} has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM₁₀ are less clear, although several studies suggest a link between long-term PM₁₀ exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (CARB 2017).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO₂ in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for PM_{2.5}.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O₃ are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O₃ and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate ambient air quality standards for VOCs as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic non-cancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics “Hot Spots” Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70 the diameter of a human

hair) and thus is a subset of PM_{2.5} (CARB 2019e). DPM is typically composed of carbon particles (“soot,” also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2019e). The CARB classified “particulate emissions from diesel-fueled engines” (i.e., DPM) (California Code of Regulations [CCR] Title 17 Section 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines, including trucks, buses, and cars, and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2022b). Those most vulnerable to non-cancer health effects are children, whose lungs are still developing, and older people, who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person’s reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. In a phenomenon known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where these air-pollution-sensitive people live or spend considerable amounts of time are known as sensitive receptors. Land uses where air-pollution-sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses) (CARB 2005).

The nearest existing sensitive receptors are residences located to the west and south, approximately 290 feet and 305 feet respectively. In addition, Mid-Peninsula High School is located adjacent to the Project site, the Open-Mind School is located 650 feet to the east, and the Cesar Chavez Ravenswood Middle School is located approximately 1,150 feet to the southeast.

4.1.2 Regulatory Framework

Federal Regulations

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O₃ protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O₃, CO, NO₂, SO₂, PM₁₀, PM_{2.5}, and lead.

The NAAQS define acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O₃, NO₂, SO₂, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O₃, NO₂, SO₂, PM₁₀, and PM_{2.5} are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the NAAQS within mandated time frames.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 187 substances and chemical families were identified as HAPs.

State Regulations

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. As stated previously, an ambient air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without harm to the public's health. For each pollutant, concentrations must be below the relevant CAAQS before a

basin can attain the corresponding CAAQS. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, PM₁₀, and PM_{2.5} and visibility-reducing particles are values that are not to be exceeded.

California air districts have based their thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the air basin can accommodate without affecting the attainment date for the NAAQS or CAAQS. Since an ambient air quality standard is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the ambient air quality standard, this means that the thresholds established by air districts are also protective of human health.

All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 4.1-1.

Table 4.1-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
O ₃	1 hour	0.09 ppm (180 µg/m ³)	—	Same as Primary Standard ^f
	8 hours	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³) ^f	
NO ₂ ^g	1 hour	0.18 ppm (339 µg/m ³)	0.100 ppm (188 µg/m ³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	
CO	1 hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	None
	8 hours	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
SO ₂ ^h	1 hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m ³)
	24 hours	0.04 ppm (105 µg/m ³)	0.14 ppm (for certain areas) ^g	—
	Annual	—	0.030 ppm (for certain areas) ^g	—
PM ₁₀ ⁱ	24 hours	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	—	
PM _{2.5} ^{i,l}	24 hours	—	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	9.0 µg/m ³	15.0 µg/m ³
Lead ^{j,k}	30-day Average	1.5 µg/m ³	—	—
	Calendar Quarter	—	1.5 µg/m ³ (for certain areas) ^k	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m ³)	—	—

Table 4.1-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
		Concentration ^c	Primary ^{c,d}	Secondary ^{c,e}
Vinyl chloride ⁱ	24 hours	0.01 ppm (26 µg/m ³)	—	—
Sulfates	24 hours	25 µg/m ³	—	—
Visibility reducing particles	8 hours (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016.

Notes: µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; ppm = parts per million by volume; O₃ = ozone; NO₂ = nitrogen dioxide; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM_{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

^a California standards for O₃, CO, SO₂ (1-hour and 24-hour), NO₂, suspended particulate matter (PM₁₀, PM_{2.5}), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than O₃, NO₂, SO₂, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

^c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25 °C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

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

^f On October 1, 2015, the national 8-hour O₃ primary and secondary standards were lowered from 0.075 to 0.070 ppm.

^g To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

^h On June 2, 2010, a new 1-hour SO₂ standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

ⁱ On February 7, 2024, the national annual PM_{2.5} primary standard was lowered from 12 µg/m³ to 9.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

^j CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

^k The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard,

except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

¹ On February 7, 2024, EPA updated the primary (health-based) annual PM_{2.5} standard at 9.0 µg/m³.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the Legislature enacted the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

Section 41700 of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This Section also applies to sources of objectionable odors.

Regional and Local Regulations

Bay Area Air District

BAAD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SFBAAB, where the Project site is located. BAAD’s clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution, inspection of stationary sources of air pollution and response to citizen complaints,

monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the federal and California Clean Air Acts.

Spare the Air – Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area Final 2017 Clean Air Plan (2017 Clean Air Plan) is the current air quality plan for the region. It provides a regional strategy to protect public health and protect the climate. To protect public health, the 2017 Clean Air Plan includes all feasible measures to reduce emissions of O₃ precursors (ROG and NO_x) and reduce O₃ transport to neighboring air basins. In addition, the 2017 Clean Air Plan builds on BAAD efforts to reduce PM_{2.5} and TACs. 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 San Francisco Bay Area on a pathway to achieve those GHG reduction targets (BAAQMD 2017).

BAAD establishes and administers a program of rules and regulations to attain and maintain state and national air quality standards and regulations related to TACs. The following BAAD rules and regulations may apply to the Project:

- **Regulation 2, Rule 1 – Permits.** This rule specifies the requirements for authorities to construct and permits to operate.
- **Regulation 6, Rule 1 – General Requirements.** This rule limits the quantity of particulate matter in the atmosphere through the establishment of limitations on emission rates, concentration, visible emissions, and opacity.
- **Regulation 6, Rule 3 – Wood-Burning Devices.** This rule limits the emissions of particulate matter and visible emissions from wood-burning devices used for primary heat, supplemental heat, or ambiance.
- **Regulation 6, Rule 6 – Prohibition of Trackout.** This rule addresses fugitive road dust emissions associated with trackout of solid materials onto paved public roads outside the boundaries of large bulk material sites, large construction sites and large disturbed surface sites (sites of 1 acre or more), and large disturbed surface sites.
- **Regulation 8, Rule 1 – General Provisions.** This rule limits the emission of organic compounds into the atmosphere.
- **Regulation 8, Rule 3 – Architectural Coatings.** This rule limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the BAAD.
- **Regulation 8, Rule 15 – Emulsified and Liquid Asphalts.** This rule limits the emissions of volatile organic compounds caused by the use of emulsified and liquid asphalt in paving materials and paving and maintenance operations.

City of Menlo Park General Plan

Policies pertaining to improving air quality are addressed in the Open Space and Conservation, Noise and Safety Elements of the City's General Plan. Relevant General Plan policies related to air quality are included below:

Circulation Element

Goal CIRC-4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.

Policy CIRC-4.1: Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce GHG emissions.

Policy CIRC-4.2: Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.

Open Space/Conservation, Noise and Safety Element

Goal OSC 4: Promote Sustainability and Climate Action Planning.

Policy OSC 4.1: Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.

Policy OSC 4.4: Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in charging stations.

Goal OSC 5: Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.

Policy OSC 5.1: Continue to apply standards and policies established by the [BAAD], San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the CEQA process and other means as applicable.

Policy OSC 5.2: Evaluate development projects in industrial areas for impacts to air and water resources in relation to truck traffic, hazardous materials use and production-level manufacturing per the CEQA and require measures to mitigate potential impacts to less than significant levels.

San Francisco Bay Area Air Basin Attainment Designation

Pursuant to the 1990 federal Clean Air Act amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS have been

achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “nonattainment” for that pollutant. If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated as “unclassified” or “unclassifiable.” The designation of “unclassifiable/attainment” means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The California Clean Air Act, like its federal counterpart, called for the designation of areas as “attainment” or “nonattainment,” but based on CAAQS rather than the NAAQS. Table 4.1-2 depicts the current attainment status of the Project site with respect to the NAAQS and CAAQS.

Table 4.1-2. San Francisco Bay Area Air Basin Attainment Classification

Pollutant	Designation/Classification	
	NAAQS	CAAQS
Ozone (O ₃), 1-hour	No NAAQS	Nonattainment
Ozone (O ₃), 8-hour	Nonattainment-marginal	Nonattainment
Nitrogen dioxide (NO ₂)	Unclassifiable/attainment	Attainment
Carbon monoxide (CO)	Attainment/maintenance	Attainment
Sulfur dioxide (SO ₂)	Unclassifiable/attainment	Attainment
Coarse particulate matter (PM ₁₀)	Unclassifiable/attainment	Nonattainment
Fine particulate matter (PM _{2.5})	Nonattainment-moderate	Nonattainment
Lead	Unclassifiable/attainment	Attainment
Hydrogen sulfide	No NAAQS	Unclassified
Sulfates	No NAAQS	Attainment
Visibility-reducing particles	No NAAQS	Unclassified
Vinyl chloride	No NAAQS	No designation

Sources: EPA 2022b (NAAQS); CARB 2020 (CAAQS).

Notes: NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; bold text = not in attainment; attainment = meets the standards; attainment/maintenance = achieves the standards after a nonattainment designation; nonattainment = does not meet the standards; unclassified or unclassifiable = insufficient data to classify; unclassifiable/attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

In summary, the SFBAAB is designated as a nonattainment area for federal and state O₃ and PM_{2.5} standards. The SFBAAB is also designated as a nonattainment area for the state PM₁₀ standards. The SFBAAB is designated as unclassified or in attainment for all other criteria air pollutants.

Local Ambient Air Quality

CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. BAAD operates a network of ambient air monitoring stations throughout San Mateo County, which measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. BAAD monitors air quality conditions at 22 locations throughout the SFBAAB. Due to proximity to the site and similar geographic and climactic characteristics, the Redwood City and San Jose-Jackson Street monitoring station concentrations for all pollutants are considered most representative of the Project site. Data for these sites was available for 8-hour O₃, 1-hour O₃, CO, SO₂, NO₂,

PM₁₀, and PM_{2.5} concentrations. Ambient concentrations of pollutants from 2022 through 2024 are presented in Table 4.2-3.

Table 4.1-3. Local Ambient Air Quality Data

Averaging Time	Unit	Agency and Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
				2022	2023	2024	2022	2023	2024
Ozone (O ₃) – Redwood City									
Maximum 1-hour concentration	ppm	State	0.12	0.079	0.089	0.043	0	0	0
Maximum 8-hour concentration	ppm	State	0.070	0.062	0.061	0.039	0	0	0
		Federal	0.070	0.061	0.061	0.039	0	0	0
Nitrogen Dioxide (NO ₂) – Redwood City									
Maximum 1-hour concentration	ppm	State	0.18	0.043	0.055	0.029	0	0	0
		Federal	0.100	0.044	0.055	0.039	0	0	0
Annual concentration	ppm	State	0.030	0.008	0.008	0.008	—	—	—
		Federal	0.053	0.008	0.008	ND	—	—	—
Carbon Monoxide (CO) – Redwood City									
Maximum 1-hour concentration	ppm	State	20	1.8	1.8	3.7	0	0	0
		Federal	35	1.8	1.8	3.7	0	0	0
Maximum 8-hour concentration	ppm	State	9.0	1.0	1.0	0.8	0	0	0
		Federal	9	1.0	1.0	0.8	0	0	0
Sulfur Dioxide (SO ₂) – San Jose – Jackson Street									
Maximum 1-hour concentration	ppm	Federal	0.075	0.020	0.021	0.050	0	0	0
Maximum 24-hour concentration	ppm	Federal	0.14	0.009	0.019	0.004	0	0	0
Annual concentration	ppm	Federal	0.030	0.0022	0.0009	0.0009	—	—	—
Coarse Particulate Matter (PM ₁₀) ^a – San Jose – Jackson Street									
Maximum 24-hour concentration	µg/m ³	State	50	44.5	ND	ND	0.0 (0)	ND (0)	ND (0)
		Federal	150	41.1	ND	ND	0.0 (0)	ND (0)	ND (0)
Annual concentration	µg/m ³	State	20	21.3	ND	ND	—	—	—
Fine Particulate Matter (PM _{2.5}) ^a – Redwood City									
Maximum 24-hour concentration	µg/m ³	Federal	35	27.4	41.0	16.0	0.0 (0)	1.1 (1)	ND (0)
Annual concentration	µg/m ³	State	12	27.4	41.0	16.0	—	—	—
		Federal	9.0	6.8	8.0	ND	—	—	—

Sources: CARB 2025; EPA 2025.

Notes: ppm = parts per million by volume; ND = insufficient data available to determine the value; — = not available; µg/m³ = micrograms per cubic meter.

Data taken from CARB iADAM (<http://www.CARB.ca.gov/adam>) and EPA AirData (<http://www.epa.gov/airdata/>) represent the highest concentrations experienced over a given year.

Daily exceedances for particulate matter are estimated days because PM₁₀ and PM_{2.5} are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM₁₀, or 24-hour SO₂, nor is there a state 24-hour standard for PM_{2.5}.

The Redwood City monitoring station is located at 897 Barron Avenue, Redwood City, California.

The San Jose-Jackson Street monitoring station is located at 158b Jackson Street, San Jose, California.

^a Measurements of PM₁₀ and PM_{2.5} are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

4.1.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to air quality are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if the Project would:

- A. Conflict with or obstruct implementation of the applicable air quality plan.
- B. 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.
- C. Expose sensitive receptors to substantial pollutant concentrations.
- D. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- E. Result in cumulatively considerable air quality impacts.

The Initial Study for this EIR, which was made available for public review during the public review period for the NOP, found that the Project would have less than significant impacts associated with thresholds A and D listed above. Thus, these thresholds are not evaluated further in this section.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether the Project would have a significant impact on air quality.

In the *California Building Industry Association v. Bay Area Air Quality Management District* case decided in 2015, the California Supreme Court held that CEQA does not generally require lead agencies to consider how existing environmental conditions might impact a project's occupants, except where that project would significantly exacerbate an existing environmental condition. Accordingly, the significance criterion above related to exposure of sensitive receptors to substantial pollutant concentrations is relevant only to the extent that the Project would exacerbate existing air quality conditions.

The most recent BAAD *CEQA Air Quality Guidelines* were adopted in April 2023 and include guidelines for the Project analysis and thresholds for criteria air pollutants, TACs, and GHG emissions (BAAQMD 2023). BAAD significance thresholds are summarized in Table 4.1-4.

Table 4.1-4. Thresholds of Significance

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
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)	
Risks and Hazards (Individual Project)	Compliance with Qualified Community Risk Reduction Plan or Increased cancer risk of >10.0 in 1 million Increased noncancer risk of >1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase >0.3 µg/m ³ annual average Zone of Influence: 1,000-foot radius from property line of source or receptor		
Risks and Hazards (Cumulative)	Compliance with Qualified Community Risk Reduction Plan or Cancer risk of >100 in 1 million (from all local sources) Noncancer risk of >10.0 Hazard Index (chronic, from all local sources) Ambient PM _{2.5} >0.8 µg/m ³ annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor		
Accidental Release of Acutely Hazardous Air Pollutants	None	Storage or use of acutely hazardous material located near receptors or new receptors located near stored or used acutely hazardous materials considered significant	
Odors	None	Five confirmed complaints to BAAD per year averaged over 3 years	

Source: BAAQMD 2023.

Notes: lbs/day = pounds per day; tons/year = tons per year; ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; CO = carbon monoxide; ppm = parts per million; µg/m³ = micrograms per cubic meter; BAAD = Bay Area Air District.

BAAD established their thresholds of significance for CEQA purposes based on the regional goal to attain the NAAQS and CAAQS. Since an AAQS is based on maximum pollutant levels in outdoor air that would not harm the public's health, and air district thresholds pertain to attainment of the AAQS, this means that the thresholds established by air districts are also protective of human health.

Regarding long-term operations, based on the proposed land uses, the Project would not result in any significant sources of TACs. Therefore, an operational HRA and the Project's potential health risk impacts were not quantified.

4.1.4 Impacts and Mitigation Measures

Construction Emissions Methodology

Emissions from the construction phase of the Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.16. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the Project applicant and CalEEMod default values when Project specifics were not known.

For purposes of estimating Project emissions, and based on information provided by the Project applicant, Phase 1 of construction was assumed to begin in July 2024 for a duration of 22 months, with buildout in May 2026. However, the applicant's original anticipated 2024 construction start date did not fully recognize the time needed for the environmental review and approval process. Phase 2 of construction was assumed to begin in May 2026 immediately after completion of Phase 1, for a duration of 14 months, with buildout in June 2027. In fact, Phase 2 may not commence construction until the current lease expires in 2034. By assuming the earlier 2026 start date for construction, this EIR presents the worst-case scenario for criteria air pollutant and GHG emissions associated with Phase 2, because equipment and vehicle emission factors for later years are expected to be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years. Similarly, because construction of Phase 1 would occur later than the assumed timeframe described above (2024-2026), this EIR presents a worst-case scenario for criteria air pollutant and GHG emissions associated with Phase 1 because construction equipment and worker, vendor, and hauling vehicles in future years typically have lower emission factors. Because the EIR's emission analyses present a conservative worst-case scenario and delayed construction likely will result in less emissions, the EIR's impact conclusions do not change. The analysis contained herein is based on the following assumptions (duration of construction stages is approximate):

Phase 1

- Demolition: 6 weeks (July 1, 2024 – August 11, 2024)
- Site Preparation: 2 weeks (August 13, 2024 – August 26, 2024)
- Grading: 6 weeks (August 27, 2024 – October 6, 2024)
- Building Construction: 1.5 years (October 8, 2024 – March 23, 2026)
- Paving: 6 weeks (March 24, 2026 – May 4, 2026)
- Architectural Coating: 4 weeks (April 7, 2026 – May 4, 2026)

Phase 2

- Demolition: 4 weeks (May 5, 2026 – May 30, 2026)
- Site Preparation: 1 week (June 2, 2026 – June 6, 2026)
- Grading: 4 weeks (June 9, 2026 – July 4, 2026)
- Building Construction: 1 year (July 7, 2026 – May 22, 2027)
- Paving: 3 weeks (May 25, 2027 – June 12, 2027)
- Architectural Coating: 3 weeks (May 25, 2027 – June 12, 2027)

Construction-worker estimates as well as vendor and haul truck trips by construction phase were based on information provided by the applicant. Haul truck trips during each grading phase were based on approximate earthwork quantities and volume of demolition waste. Grading for Phase 1 was estimated to involve a total of 1,540 cubic yards (CY) of cut and 7,690 CY of soil fill. Phase 2 was estimated to involve a total of 650 CY of cut and 3,270 CY of soil fill. Earth-moving activities would result in a total of approximately 120 round trips (240 one-way truck trips) for Phase 1 and 40 round trips (80 one-way truck trips) for Phase 2. CalEEMod default trip length values were used for the distances for worker, vendor, and haul trips. Fugitive dust generated during truck loading is included in CalEEMod as an on-site source of fugitive dust emissions and is calculated based on estimated throughput of loaded and unloaded material.

The construction equipment mix and vehicle trips used for estimating the Project-generated construction emissions are shown in Table 4.1-5. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site 5 days per week (22 days per month) during Project construction.

Table 4.1-5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Workers Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Type	Quantity	Usage Hours
Phase 1						
Demolition	15	1	360	Concrete/Industrial Saws	1	8
				Excavators	2	8
				Rubber Tired Dozers	1	8
Site Preparation	10	2	50	Rubber Tired Dozers	1	8
				Tractors/Loaders/Backhoes	2	8
Grading/Excavation	15	3	240	Excavators	2	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Scrapers	1	8
				Tractors/Loaders/Backhoes	1	8
Building Construction	25	5	150	Cranes	1	7
				Forklifts	1	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	2	7
				Welders	1	8
Paving	5	5	40	Pavers	1	6
				Paving Equipment	1	6
				Rollers	1	6

Table 4.1-5. Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Workers Trips	Average Daily Vendor Truck Trips	Total Haul Truck Trips	Type	Quantity	Usage Hours
Architectural Coating	5	5	0	Air Compressors	1	6
Phase 2						
Demolition	12	0	120	Concrete/Industrial Saws	1	8
				Excavators	1	8
				Rubber Tired Dozers	1	8
Site Preparation	10	2	25	Rubber Tired Dozers	1	8
				Tractors/Loaders/Backhoes	1	8
Grading/Excavation	15	3	80	Excavators	1	8
				Graders	1	8
				Rubber Tired Dozers	1	8
				Tractors/Loaders/Backhoes	1	8
Building Construction	25	5	75	Cranes	1	7
				Forklifts	1	8
				Generator Sets	1	8
				Tractors/Loaders/Backhoes	1	7
				Welders	1	8
Paving	5	5	15	Cement and Mortar Mixers	1	6
				Pavers	1	8
				Paving Equipment	1	6
				Rollers	1	6
				Tractors/Loaders/Backhoes	1	6
Architectural Coating	5	5	0	Air Compressors	1	6

Source: Appendix I.

Notes: Equipment types noted in parenthesis represent the equipment equivalent used in CalEEMod construction modeling.

Operational Emissions Methodology

Emissions from the operational phase of the Project were estimated using CalEEMod Version 2022.1.1.16. Phase 1 was assumed to be operational in 2026 after completion of construction. As previously discussed, Phase 2 would likely commence construction in 2034. However, in order to estimate operational emissions at full buildout, an operational year of 2028 was assumed for the analysis. As with construction, assuming

the earliest operational date represents the worst-case scenario for criteria air pollutant and GHG emissions because vehicle emission factors for later years would be slightly less due to more stringent standards for vehicles in later years.

Once operational, the Project would include lab activities (hazardous fume hood emissions) which are exempt from BAAD requirements largely due to de minimis health risk. Bio emissions are not considered a source of bio-exposure concern for labs since (1) there is filtration of exhaust air required, and (2) concentrations/exposure to receptors would be at a de minimis level if released to outside air due to dilution with surrounding environment and breakdown of bio molecules through natural processes. Section 4.3, Hazards and Hazardous Materials, discusses the associated potential impacts due to operation of the R&D/life science laboratories.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating are calculated in the building energy use module of CalEEMod, as described in the following text.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2022). Consumer product ROG emissions are estimated in CalEEMod based on the building floor area and the default factor of pounds of ROG per building square foot per day. For the asphalt surface land uses, CalEEMod estimates ROG emissions associated with use of parking surface degreasers based on the square footage of parking surface area and pounds of ROG per square foot per day.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as paints and primers, used during building maintenance. CalEEMod calculates the ROG (VOC) evaporative emissions from application of surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and BAAD's Regulation 8, Rule 3 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed that the nonresidential surface area for painting equals 2.0 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. For asphalt surfaces, the architectural coating area is assumed to be 6% of the total square footage, consistent with the supporting CalEEMod studies provided as an appendix to the CalEEMod User's Guide (CAPCOA 2022).

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated with landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day). In addition, it was assumed that landscaping would occur throughout the entire year (365 days).

CalEEMod assumes that some landscape equipment would be powered by gasoline. Menlo Park Municipal Code Chapter 8.05 prohibits the use of most gas-powered equipment, effective 2024, and prohibits the use of gas-powered lawn mowers starting in 2029. Thus, the estimated emissions from landscape equipment presented in this analysis represent a worst-case condition because the modeling does not account for the reductions that would result from compliance with Municipal Code Chapter 8.05.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off site.

In CalEEMod 2022.1, the default energy use from nonresidential land uses is based on 2019 consumption estimates from the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast (Commercial Forecast). The Commercial Forecast dataset derives energy intensities of different end use categories for different land use subtypes for electricity demand forecast zones (EDFZ) throughout the state. However, the energy use estimates are based on existing buildings and are not representative of buildings constructed in compliance with energy efficiency requirements of the latest Title 24 Building Energy Efficiency Standards. Therefore, as noted in the Technical Source Documentation for Emissions Calculations, which is Appendix D of the CalEEMod Version 2022.1 User Guide, the default energy consumption estimates provided in CalEEMod based on the Commercial Forecast "are very conservative, overestimating expected energy use compared to what would be expected for new buildings subject to the latest Energy Code with more stringent energy efficiency measures" (CAPCOA 2022). Project construction would be required to comply with the Title 24 Standards in effect at the time that a building permit is issued, which currently are the 2025 Title 24 Standards.

A summary of key modeling assumptions for each operational run is provided below:

- **Existing Scenario.** Default CalEEMod values were applied.
- **Proposed Project.** Default CalEEMod values for natural gas and electricity demand were updated based on information from the Project applicant. The Project would have a natural gas demand of approximately 5,611 thousand British thermal units (kBtu) per year. The Project would have an electricity demand of approximately 2,988 kilowatts (kW). As noted above, only natural gas use results in criteria air pollutant emissions (as electricity is estimated for GHG emissions only in CalEEMod).

Mobile Sources

Mobile sources for the Project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the Project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The anticipated trip generation, including the trip rates and total trips, are based on the Project's transportation assessment. Specifically, the Project would generate 1,643 daily trips. This includes a 35% reduction to account for the Transportation Demand Management (TDM) plan that the Project would be required to implement. The existing uses were assumed to generate approximately 426 daily trips. Thus, the Project would generate a net increase of 1,217 trips. The Project would not generate a significant

amount of TACs or DPM, due to the limited amount of heavy-duty truck trips generated by the Project. CalEEMod default data, including trip length, temperature, trip characteristics, variable start information, emissions factors, were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources. Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. Emission factors representing the vehicle mix and emissions for 2028 were used to estimate emissions associated with full buildout of the Project.

Emergency Generators

To ensure that critical functions such as elevators, safety systems, and lighting can remain operational during an electrical service disruption affecting the Project, each of the two buildings is proposed to be equipped with an emergency electrical power generator. The make and model of the generator to be employed have not yet been determined for the Project. As a result, this analysis is based on a representative diesel-fuel generator of a size/capacity specified for a research office building like those of the Project as discussed in the noise assessment. A 1,500-kilowatt (kW) Generac SD1500 generator was used for the generator air quality analysis assuming maximum annual usage not to exceed 100 hours⁴.

Construction Health Risk Assessment

The greatest potential for TAC emissions during Project construction would be DPM emissions from heavy equipment operations and heavy-duty trucks. A construction HRA was performed to evaluate the potential impact to existing off-site receptors as a result of Project construction. For risk assessment purposes, PM_{2.5} in diesel exhaust is considered a proxy for DPM.⁵ Complete model results for the construction HRA are included as Appendix J.

The construction HRA applies the methodologies prescribed in the Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). Cancer risk parameters, such as age-sensitivity factors, daily breathing rates, exposure period, fraction of time at home, and cancer potency factors were based on the values and data recommended by OEHHA are implemented in CARB's Hotspots Analysis and Reporting Program Version 2 (HARP2), which was used to estimate risk from construction activities.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. BAAD recommends a carcinogenic (cancer) risk threshold of 10 in one million (BAAQMD 2023). For context, the National Cancer Institute estimates that approximately 39.5% of people will be diagnosed with cancer during their lifetimes (National Cancer Institute 2020). A cancer risk of 10 in a million indicates that a person has an additional risk of 10 chances in a million (0.001%) of developing cancer during their lifetime as a result of the air pollution scenario being evaluated, which is minimal and defined as the “No Significant Risk Level” for carcinogens in Proposition 65. Additionally, some TACs increase noncancer health risk due to long-term

⁴ Per BAAD, emergency backup generators do not operate more than 100 hours a year and are only operational in the event of an emergency power failure or for routine testing and maintenance.

⁵ Under California regulatory guidelines, DPM is used as a surrogate measure of carcinogen exposure for the mixture of chemicals that make up diesel exhaust as a whole. The California EPA is a proponent of using the surrogate approach to quantifying cancer risks associated with diesel exhaust over a component-based approach, which involves estimating risks for each of the individual components of a mixture. The California EPA has concluded that “potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components” (OEHHA 2003).

(chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. BAAD recommends a Chronic Hazard Index significance threshold of 1.0 (BAAQMD 2023).

The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM; therefore, acute impacts of DPM are not addressed in this assessment.

A dispersion modeling analysis was conducted of DPM emitted from diesel vehicles and construction equipment on the Project Site for the HRA to assess the health risk impacts of the construction on proximate existing off-site sensitive receptors (residences, schools). Additionally, dispersion modeling was conducted for fugitive dust $PM_{2.5}$. The dispersion modeling was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model BAAD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain. Principal parameters of this modeling are presented in Table 4.1-6.

Table 4.1-6. Construction Health Risk Assessment AERMOD Principal Parameters

Dispersion model	The air dispersion model used was AERMOD Version 22112, with the Lakes Environmental Software implementation/user interface, AERMOD View, Version 11.2.0. A unit emission rate (1 gram per second [g/s]) was normalized over the line of adjacent volume sources and area sources for the AERMOD run to obtain the X/Q values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength. It is used as a way to simplify the representation of emissions from many sources. The maximum concentrations were determined for the 1-hour and PERIOD averaging periods.
Meteorological data	The latest 5-year meteorological data (years 2011-2015) for San Carlos Airport station provided by BAAD (BAAQMD 2022) were input into AERMOD.
Urban versus rural option	Typically, urban areas have more surface roughness and structures and low-albedo surfaces that absorb more sunlight, and thus, more heat, relative to rural areas. The urban dispersion option was selected and the San Mateo County population for year 2022 (729,181 persons) input into AERMOD.
Terrain characteristics and elevation data	The terrain in the vicinity of the modeled Project site is varied. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the U.S. Geological Survey's National Elevation Dataset format with an approximately 1 arc-second resolution.
Emission sources and release parameters	Air dispersion modeling of DPM emissions was conducted assuming the equipment and trucks would operate in accordance with the modeling scenario estimated in CalEEMod (Appendix I). The construction equipment and diesel truck DPM emissions were modeled as a line of adjacent volume sources across the Project site to represent construction with a release height of 5 meters (16 feet), plume height of 10 meters (33 feet), and plume width of 9 meters (30 feet). Additionally, an area source was input on

Table 4.1-6. Construction Health Risk Assessment AERMOD Principal Parameters

	the construction site to represent fugitive dust, with a release height of 0 meters and an initial vertical dimension of 1 meter (3 feet).
Receptors	The HRA evaluates the risk to existing off-site receptors located in proximity to the Project site. For the off-site receptors, a uniform fine 1.5- by 1.5-kilometer (0.9- by 0.9-mile) Cartesian grid with 20-meter (66-foot) spacing was centered over the Project site and converted into discrete receptors to capture the maximum point of impact.

Source: Appendix J.

Notes: AERMOD = American Meteorological Society/EPA Regulatory Model; BAAD = Bay Area Air District; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model; HRA = health risk assessment.

Dispersion model plot files from AERMOD were then imported into CARB's HARP2 to determine health risk, which requires peak 1-hour emission rates and annual emission rates for all pollutants for each modeling source. For the off-site receptors, the Project's potential cancer and noncancer health impacts from construction of the Project assume an exposure duration of 769 active construction days, starting at the third trimester of pregnancy. The risk results were then compared to BAAD thresholds to assess Project construction impact significance.

Project Impacts

Impact 4.1-1: Would the Project 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?

Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and BAAD develops and implements plans for future attainment of ambient air quality standards considering past and present development as well as projected future growth. Based on these considerations, project-level thresholds of significance for criteria pollutants are used in the determination of whether a project's individual emissions would have a cumulatively considerable contribution to air quality. Appendix G of the CEQA Guidelines indicates that, where available, the significance criteria established by the applicable air district may be relied upon to determine whether a project would have a significant impact on air quality. BAAD has established Air Quality Significance Thresholds which set forth quantitative emissions significance thresholds below which a project would not have a significant impact on ambient air quality (BAAQMD 2023). If a project's emissions would exceed the BAAD significance thresholds, it would be considered to have a cumulatively considerable contribution to cumulative air quality impacts. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant (BAAQMD 2023).

A quantitative analysis was conducted to determine whether the Project would result in a cumulatively considerable net increase in emissions of criteria air pollutants for which the SFBAAB is designated as nonattainment under the NAAQS or CAAQS. As discussed above, the SFBAAB is designated as nonattainment for ozone and particulate matter. BAAD has thresholds for particulate matter but not ozone. Ozone is created primarily through the atmospheric combination of NO_x and ROG. For this reason, the BAAD thresholds for NO_x and ROG act as a proxy for measuring a project's impact on ozone.

The quantitative air quality analysis of Project-generated emissions associated with construction and operation presented in the following discussion applies the BAAD thresholds to determine the potential for the Project to result in a cumulatively considerable contribution to significant impacts under CEQA.

Construction Emissions

Proposed construction activities would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment and soil disturbance) and off-site sources (i.e., on-road delivery trucks, and worker vehicle trips). Construction emissions can vary substantially from day to day, depending on the level of activity; the specific type of operation; and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

Average daily emissions were computed by dividing the total construction emissions by the number of active construction days, which were then compared to the BAAD construction thresholds of significance. Table 4.1-7 shows average daily construction emissions of O₃ precursors (ROG and NO_x), PM₁₀ exhaust, and PM_{2.5} exhaust during Project construction.⁶ Details of the emission calculations are provided in Appendix I.

Table 4.1-7. Average Daily Construction Criteria Air Pollutant Emissions

	ROG	NO _x	PM ₁₀ Exhaust	PM _{2.5} Exhaust
Year	<i>Average Pounds per Day</i>			
2024	0.54	5.20	0.21	0.19
2025	0.67	6.00	0.23	0.21
2026	1.29	5.55	0.21	0.19
2027	0.72	2.13	0.07	0.07
<i>BAAD Construction Thresholds</i>	54	54	82	54
Threshold exceeded?	No	No	No	No

Source: Appendix I.

Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter.

The values shown are average daily emissions based on total overall tons of construction emissions, converted to pounds, and divided by 1,072 active workdays.

As shown in Table 4.1-7, construction of the Project would not exceed BAAD significance thresholds. However, BAAD does not have a quantitative significance threshold for fugitive dust. Instead, the BAAD's CEQA Air Quality Guidelines recommend that projects determine the significance for fugitive dust through application of best management practices (BMPs). Pursuant to ConnectMenlo MM AQ-2b1, the City requires all "applicants for future development projects to comply with the current [BAAD] basic control measures for reducing construction emissions of PM₁₀ (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the [BAAD] CEQA Guidelines)." The Project would comply with this City requirement by implementing MM 4.1a, which contains the BAAD-recommended BMPs. Implementation of the required fugitive dust mitigation would ensure air quality and fugitive dust-related

⁶ Fuel combustion during construction and operation would also result in the generation of sulfur dioxide (SO₂) and CO. These values are included in Appendix J. However, since the SFBAAB is in attainment of these pollutants, BAAD has not established a quantitative mass-significance threshold for comparison and are not included in the Project-generated emissions tables in this document. BAAD does have screening criteria for operational localized CO.

impacts associated with construction would remain **less than cumulatively considerable** and that the Project's impact on all criteria air pollutants during construction would be **less than cumulatively considerable**.

Operational Emissions

Operation of the Project would generate criteria pollutant (including ROG, NO_x, PM₁₀, and PM_{2.5}) emissions from mobile sources (vehicular traffic), area sources (consumer products, landscaping equipment), and energy sources (electrical consumption). The criteria pollutant emissions associated with the existing land uses within the site were also quantified using CalEEMod. CalEEMod default values were used to estimate emissions from area and energy sources for both the Project and the existing land uses where Project-specific information was not available.

Table 4.1-8 summarizes the net change in operational emissions from the daily mobile, energy, and area emissions of criteria pollutants that would be generated from the Project and the existing land uses which are compared to the BAAD operational thresholds. As noted previously, the operational emissions reflect a 35% reduction in daily vehicle trips to account for the TDM plan that the Project would be required to implement. Complete details of the emissions calculations are provided in Appendix I.

Table 4.1-8. Average Daily Operational Criteria Air Pollutant Emissions

Emission Source	ROG	NO _x	PM ₁₀	PM _{2.5}
	Average Pounds per Day			
Proposed Project				
Mobile	3.22	2.79	13.57	3.48
Area	7.64	0.13	0.03	0.02
Energy	0.08	1.51	0.11	0.11
Emergency Generators	1.81	8.09	0.97	0.97
Total	12.76	12.52	14.68	4.59
Existing Land Uses				
Mobile	1.07	1.09	2.68	0.69
Area	2.52	0.02	0.00	0.00
Energy	0.02	0.28	0.02	0.02
Total	3.60	1.39	2.71	0.72
Net Change				
Net Change (Project – Existing Land Uses)	9.16	11.13	11.97	3.87
BAAD Operational Thresholds	54	54	82	54
Threshold exceeded?	No	No	No	No

Source: Appendix I.

Notes: ROG = reactive organic gases; NO_x = oxides of nitrogen; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter; BAAD = Bay Area Air District; <0.01 = value less than reported 0.01.

As indicated in Table 4.1-8, Project-related operational emissions of ROG, NO_x, PM₁₀, and PM_{2.5} would not exceed the BAAD significance thresholds, and thus, Project operations would have a **less than cumulatively considerable** impact on emissions in the air basin.

Regarding localized CO concentrations, according to the BAAD thresholds, a project would result in a less than significant impact if the following screening criteria are met:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As identified in Section 4.6, Transportation, the Proposed Project would generate a net increase of 1,217 daily traffic trips. The Project would not result in new traffic trips that would exceed the BAAD screening criteria (numbers 2 and 3 above) and as discussed in Section 4.6, Transportation, the Project is consistent with the applicable congestion management program. Accordingly, Project-related traffic would not exceed CO standards. This CO emissions impact would be considered **less than significant** on a Project-level and **less than cumulatively considerable** on a cumulative basis.

Health Effects of Criteria Air Pollutants

At the time of writing, no specific tools have been developed for use in CEQA documents to connect criteria air pollutant emissions from an individual project to specific health effects in response to the California Supreme Court's decision in *Sierra Club v. County of Fresno* (2018) 6 Cal. 5th 502 (referred to as "Friant Ranch"). Thus, a project's emissions are evaluated in the context of the BAAD significance thresholds, which define the levels of emissions that can occur without causing or contributing to violations of the NAAQS or CAAQS.

Health effects associated with O₃ include respiratory symptoms, worsening of lung disease leading to premature death, and damage to lung tissue (CARB 2019c). ROG and NO_x are precursors to O₃, for which the SFBAAB is designated as nonattainment with respect to the NAAQS and CAAQS. The contribution of ROG and NO_x to regional ambient O₃ concentrations is the result of complex photochemistry. The increases in O₃ concentrations in the SFBAAB due to O₃ precursor emissions tend to be found downwind of the source location because of the time required for the photochemical reactions to occur. Further, the potential for exacerbating excessive O₃ concentrations would also depend on the time of year that the ROG emissions would occur, because exceedances of the O₃ NAAQS and CAAQS tend to occur between April and October when solar radiation is highest. Due to the lack of quantitative methods to assess this complex photochemistry and the difficulty in connecting small amounts of pollution to generalized health outcomes, the holistic effect of a single Project's emissions of O₃ precursors on health impacts is hard to predict. That being said, because the Project would not exceed the BAAD emission thresholds, the Project would not make a cumulatively considerable contribution to adverse health effects associated with O₃. Additionally,

the Project would use architectural coatings that adhere to Regulation 8, Rule 3 – Architectural Coatings, which restricts the content of volatiles in coatings. This would ensure that ROG emissions are minimized.

Health effects associated with NO_x include lung irritation and enhanced allergic responses (CARB 2019c). Because Project-related NO_x emissions would not exceed the BAAD emission threshold, and because the SFBAAB is a designated attainment area for NO₂ (and NO₂ is a constituent of NO_x) and the existing NO₂ concentrations in the area are well below the NAAQS and CAAQS standards, it is not anticipated that the Project would cause an exceedance of the NAAQS and CAAQS for NO₂ or result in potential health effects associated with NO₂ and NO_x.

Health effects associated with CO include chest pain in patients with heart disease, headache, light-headedness, and reduced mental alertness (CARB 2019d). High CO concentration tends to be a localized effect associated with congested intersections. As described previously, the Project would result in minimal new traffic trips and would not exceed the BAAD CO screening criteria regarding potential formation of CO hotspots. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant.

Health effects associated with PM₁₀ include premature death and hospitalization, primarily for worsening of respiratory disease (CARB 2022a). Construction and operation of the Project would not exceed thresholds for PM₁₀ or PM_{2.5} and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter or obstruct the SFBAAB from coming into attainment for these pollutants. Additionally, the Project would implement dust control strategies and be required to comply with BAAD's Regulation 6, Rule 1 – Particulate Matter to limit the amount of fugitive dust generated during construction. Due to the minimal contribution of PM₁₀ and PM_{2.5} during construction and operation, it is not anticipated that the Project would result in potential health effects related to particulate matter.

In summary, operation of the Project would result in **less than significant** health effects associated with criteria air pollutants because:

- construction and/or operation of the Project would not generate pollutant volumes that exceed the BAAD significance thresholds for ROG, NO_x, PM₁₀, and PM_{2.5},
- the BAAD thresholds are based on levels that the SFBAAB can accommodate without affecting the attainment date for the AAQS, and
- the AAQS are established to protect public health and welfare.

Mitigation Measures

MM 4.1a ensures that the Project would implement the BMPs recommended by BAAD to minimize release of fugitive dust and ensure air quality and fugitive dust-related impacts associated with construction would remain less than significant.

MM 4.1a Fugitive Dust Reductions. The following dust control measures shall be implemented during construction:

1. All exposed surfaces (e.g., parking/staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off site shall be covered.
3. All visible mud or dirt track-out onto local roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. 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.
6. 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.
7. 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.
8. 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 Bay Area Air Quality District's phone number shall also be visible to ensure compliance with applicable regulations.

Impact 4.1-2: Would the Project expose sensitive receptors to substantial pollutant concentrations?

Toxic Air Contaminants

Health Impacts of Construction Toxic Air Contaminants

Health effects from TACs are usually described in terms of cancer risk. BAAD recommends a project incremental cancer risk threshold of 10 in a million, and a cumulative incremental cancer risk threshold of 100 in a million (BAAQMD 2023). "Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 9-, 30-, and 70-year exposure period will contract cancer based on the use of standard OEHHHA risk-assessment methodology. In addition, some TACs have noncarcinogenic effects.

TACs that would potentially be emitted during construction activities would be DPM emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. A construction HRA was performed for the Project to evaluate the risk from diesel exhaust emissions on existing proximate off-site sensitive receptors. The HRA methodology was described in Section 4.1.3, and the detailed assessment is provided in Appendix J. Table 4.1-9 summarizes the results of the HRA for Project construction.

Table 4.1-9. Summary of Maximum Cancer and Chronic Health Risks - Unmitigated

Impact Analysis	Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
<i>Maximally Exposed Individual Resident</i>					
Construction HRA	Cancer Risk	Per Million	15.84	10	Potentially Significant
	Chronic Hazard Index	Index Value	0.0091	1.0	Less than Significant
	PM _{2.5} Concentration (µg/m ³)	µg/m ³	0.001	0.3	Less than Significant

Source: Appendix J.

Notes: CEQA = California Environmental Quality Act; HRA = Health Risk Assessment.

As shown in Table 4.1-9, the results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in an off-site cancer risk above the 10 in 1 million threshold for the Project. The Chronic Hazard Index for the Project would be less than one and the maximum PM_{2.5} concentration would be 0.19 µg/m³. Therefore, TAC emissions from construction activities associated with the Project may expose sensitive receptors to substantial pollutant concentrations of TACs and would result in a potentially significant impact; therefore, MM 4.1b requires the use of Tier 4 Final engines on construction equipment to reduce DPM emissions. Table 4.1-10 shows the results of the HRA after implementation of MM 4.1b.

Table 4.1-10. Summary of Maximum Cancer and Chronic Health Risks - Mitigated

Impact Analysis	Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
<i>Maximally Exposed Individual Resident</i>					
Construction HRA	Cancer Risk	Per Million	2.72	10	Less than Significant
	Chronic Hazard Index	Index Value	0.0016	1.0	Less than Significant
	PM _{2.5} Concentration (µg/m ³)	µg/m ³	0.001	0.3	Less than Significant

Source: Appendix J.

Notes: CEQA = California Environmental Quality Act; HRA = Health Risk Assessment.

As shown in Table 4.1-10, the HRA results from the mitigated scenario show cancer risks less than the 10 in 1 million threshold, the chronic hazard index less than the 1.0 threshold and the maximum PM_{2.5} concentration would be 0.13 µg/m³. Impacts would be **less than significant** with mitigation incorporated.

Local Carbon Monoxide Concentrations

Mobile source impacts occur on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SFBAAB. Locally, Project generated traffic would be added to the City's roadway system near the Project site. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SFBAAB is steadily decreasing.

The BAAD thresholds of significance for local CO emissions are the 1-hour and 8-hour CAAQS of 20 ppm and 9 ppm, respectively. By definition, these represent levels that are protective of public health. According to BAAD, a project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met (BAAQMD 2023):

1. Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As noted previously, the Project would generate a net increase of 1,217 daily traffic trips and would be consistent with the applicable congestion management program. This minimal amount of new traffic trips would comply with the BAAD screening criteria. Accordingly, Project-related traffic would not exceed CO standards. Thus, the CO emissions impact would be considered less-than-significant on a Project-level and cumulative basis.

Mitigation Measures

MM 4.1b Construction Equipment Emissions Reductions. Prior to the commencement of construction activities for the Project, the Project Applicant shall require its construction contractor to demonstrate that all 200-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines.

In the event of changed circumstances (e.g., changes in the availability of specific types of construction equipment), the applicant may submit a request to the City of Menlo Park to apply an equivalent method of achieving project-generated construction emissions that fall below the numeric cancer risk standards established by the Bay Area Air District (BAAD). Documentation using industry-standard emission estimation methodologies shall be furnished to the City of Menlo Park demonstrating that estimated project-generated construction emissions would not exceed the applicable BAAD cancer risk threshold when

using the alternate construction method(s). If the documentation demonstrates that project-generated construction emissions will remain below the applicable BAAD cancer risk threshold, then the City of Menlo Park Community Development Director may approve the alternate construction method(s), at the Director's discretion. Required construction equipment fleet and methodologies approved by the City shall be included in the contract specifications for the applicant's construction contractor.

Cumulative Impacts

Past, present, and future development projects may contribute to the SFBAAB adverse air quality impacts on a cumulative basis. Per BAAD's CEQA Air Quality Guidelines, by its nature air pollution is largely a cumulative impact; no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. In developing thresholds of significance for air pollutants, BAAD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be considered cumulatively considerable, resulting in a significant adverse air quality impact to the region's existing air quality conditions. Therefore, if the Project's emissions are below the BAAD thresholds or screening criteria, then the Project would not result in a cumulatively considerable net increase of any criteria air pollutant.

The cumulative context of an air pollutant is dependent on the specific pollutant being considered. O₃ precursors (NO_x and ROG) are a regional pollutant; therefore, the cumulative context would be existing and future development within the entire SFBAAB. This means that O₃ precursors generated in one location do not necessarily have O₃ impacts in that area. Instead, precursors from across the region can combine in the upper atmosphere and be transported by winds to various portions of the SFBAAB. Consequently, all O₃ precursors generated throughout the SFBAAB are part of the cumulative context. Particulate matter directly emitted from a project is generally regarded as having both regional and localized impacts; however, PM₁₀ and PM_{2.5} are the largest concern during construction. Furthermore, CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas.

The geographic scope for the Proposed Project's cumulative analysis includes the City of Menlo Park and surrounding areas within the SFBAAB. The SFBAAB includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara Counties; the western portion of Solano County and the southern portion of Sonoma County.

Cumulative localized impacts could potentially occur if a construction project were to occur concurrently with another off-site project. Construction of other projects in the vicinity, including the Willow Village Master Plan Project, Commonwealth Building 3 Project, the Hotel Moxy Project, and the 3705 Haven Avenue Project could occur concurrently with the Proposed Project. For example, the Willow Village Master Plan Project EIR assumed construction beginning in 2023 with buildout in 2026, the Commonwealth Building 3 Project EIR assumed construction between 2023 and 2025, but that project has not yet been approved, the 123 Independence Drive Project was assumed to be constructed from September 2023 through February 2028. All of these projects are consistent with the City's Land Use and Transportation Element ("ConnectMenlo") and must comply with the following ConnectMenlo EIR air quality MMs. Note that these measures are repeated exactly as they appear in the ConnectMenlo EIR, and therefore they use the former

air district name (Bay Area Air Quality Management District, or BAAQMD), rather than the current air district name (BAAD).

MM AQ-2b1: As part of the City's development approval process, the City shall require applicants for future development projects to comply with the current Bay Area Air Quality Management District's basic control measures for reducing construction emissions of PM₁₀ (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines).

MM AQ-2b2: Prior to issuance of building permits, development project applicants that are subject to CEQA and exceed the screening sizes in the BAAQMD's CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology in assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the City of Menlo Park shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities to below these thresholds (e.g., Table 8-2, Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold of the BAAQMD CEQA Guidelines, or applicable construction mitigation measures subsequently approved by BAAQMD). These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City's Building Division and/or Planning Division.

MM AQ-3a: Applicants for future non-residential land uses within the city that: 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered TRUs, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, nursing homes), as measured from the property line of a proposed project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the City of Menlo Park prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the Bay Area Air Quality Management District. If the HRA shows that the incremental cancer risk exceeds 10 in one million (10E-06), PM_{2.5} concentrations exceed 0.3 µg/m³, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. Mitigation measures may include but are not limited to:

- Restricting idling on-site beyond Air Toxic Control Measures idling restrictions, as feasible.
- Electrifying warehousing docks.
- Requiring use of newer equipment and/or vehicles.
- Restricting off-site truck travel through the creation of truck routes.

Mitigation measures identified in the project-specific HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of a proposed project.

As the ConnectMenlo EIR stated, “[s]imilar to GHG emissions impacts, air quality impacts are regional in nature as no single project generates enough emissions that would cause an air basin to be designated as nonattainment area.” Nevertheless, the ConnectMenlo EIR concluded that criteria air pollutant emissions generated by cumulative development associated with buildout of the General Plan would exceed BAAD’s project-level significance thresholds and would contribute to the nonattainment designations of the Air Basin. Thus, the ConnectMenlo EIR identified a significant cumulative air quality impact associated with construction activities.

Impact 4.1-3: Would the Project result in cumulatively considerable air quality impacts?

Construction-Related Cumulative Impacts

The potential for the Project to result in a cumulatively considerable air quality impact is evaluated in Impact 4.1-1. BAAD maintains that its adopted significance thresholds are intended to maintain ambient air quality concentrations of the criteria air pollutants state and federal standards and to prevent a cumulatively considerable contribution to regional nonattainment with ambient air quality standards. As discussed in Impact 4.1-1, construction of the Project is not expected to exceed the BAAD average daily significance thresholds. In addition, MM 4.1a would ensure that the Project implements the BAAD-recommended BMPs to reduce fugitive dust impacts from construction activities. This Project-specific MM mirrors the requirement under ConnectMenlo EIR MM AQ-2b1, which applies to other recently approved and pending projects in the cumulative scenario. Further, as discussed under Impact 4.1-2, the Project’s short-term construction-related TAC emissions could result in a significant health risk, but this risk would be reduced to a less-than-significant level with implementation of MM 4.1b. Thus, the Project would not substantially contribute to health risks from air pollutants in the area. Other recently approved and pending projects in the cumulative scenario that meet the criteria in ConnectMenlo EIR MM AQ-3a are also required to conduct an HRA and implement measures to reduce potential cancer and noncancer risks to an acceptable level to ensure that there are no significant cumulative health risk impacts. In addition, as discussed above, it is reasonable to assume that construction emissions of the other development projects in the region would be limited by applicable BAAD regulations and rules through compliance with the ConnectMenlo EIR MMs. Therefore, with implementation of MMs 4.1a and 4.1b to minimize Project-related construction emissions, and because Project construction activities throughout the region would comply with BAAD rules, Project-generated construction emissions would not be cumulatively considerable and the Project would make a **less than cumulatively considerable** contribution to the significant cumulative impact.

Operation-Related Cumulative Impacts

As discussed in Impact 4.1-1, the Project would make a less than cumulatively considerable contribution to long-term operational air quality impacts for all criteria pollutants, and the Project would not conflict with the BAAD 2017 Clean Air Plan, which addresses the cumulative emissions in the SFBAAB. Because the BAAD air quality plans are regularly updated and consider the cumulative emissions of existing and projected development, it may be concluded that a project that conforms to the applicable air quality plans and does not have a direct air quality impact would not cause or contribute to a significant cumulative

regional air quality impact. Therefore, the Project would make a **less than cumulatively considerable** contribution to air quality impacts related to long-term regional emissions of all criteria pollutants. As such, the Project's potential to result in a cumulatively considerable increase of any criteria pollutant for which the SFBAAB is in nonattainment under an applicable NAAQS or CAAQS O₃, PM₁₀, and PM_{2.5} would be less than significant.

The analysis for local CO hotspot impacts in Impact 4.1-1 is based on the BAAD CEQA Guidelines. The qualitative assessment that demonstrated that the Project would have a less than significant impact and that the Project-specific analysis is inherently a cumulative analysis; thus, the Project would have a **less than cumulatively considerable** contribution to CO hotspot impacts.

Cumulative Health Risk

The BAAD method for determining cumulative health risk requires the review of health risk from permitted sources, railroads, and major roadways in the vicinity of a project site (i.e., within 1,000 feet of the Project Site), then adding that project's impacts to determine whether the cumulative health risk thresholds are exceeded. The 1,000-foot radius from a project site is used because TACs produced at distant locations from a particular project site do not readily combine to create concentrations that result in health risks at or near that site.

BAAD has developed a geo-referenced database of permitted emissions sources throughout the San Francisco Bay Area for estimating health risks to sensitive receptors from existing permitted sources. Risks associated with the following stationary sources within 1,000 feet of the Project Site were provided by BAAD:

- West Bay Sanitary District (generator)
- Cs Bio Company (generator)
- Facebook (generator)

In addition to permitted stationary sources, the potential health risk of Highway 101, proximate major roadways, and the railroad within the Project area was also provided by BAAD.

Finally, the cumulative HRA also considers the Project's construction health risk impacts (described in Impact 4.1-2), because off-site sensitive receptors would be exposed to TACs during the Project's construction phase.

As shown in Table 4.1-11, health impacts at these proposed sensitive receptors from all proximate sources would be below the BAAD cumulative thresholds for cancer risk, chronic health hazards, and PM_{2.5} concentrations.

Table 4.1-11. Maximum Cumulative Health Impacts - Off-Site Receptors

Source ^a	Cancer Risk (Persons per Million)	Chronic Impact	PM _{2.5} Concentration (µg/m ³)
West Bay Sanitary District	0.50	0.00	0.001
Cs Bio Company	1.49	0.00	0.002

Table 4.1-11. Maximum Cumulative Health Impacts - Off-Site Receptors

Source ^a	Cancer Risk (Persons per Million)	Chronic Impact	PM _{2.5} Concentration (µg/m ³)
Facebook	5.35	0.02	0.007
Major Roadways	13.6	N/A ^b	0.28
Railroad	2.4	N/A ^b	0.0004
Project Construction ^c	2.72	0.0016	0.001
Total Cumulative Health Risk	26.06	0.022	0.29
<i>BAAD Cumulative Significance Criteria</i>	<i>100</i>	<i>10</i>	<i>0.8</i>
Exceed Threshold?	No	No	No

Source: Appendix J.

Note: BAAD = Bay Area Air District; DPM = diesel particulate matter; N/A = not applicable; PM_{2.5} = fine particulate matter; µg/m³ = micrograms per cubic meter.

^a Screening health risk levels for all stationary sources, Highway 101, major roadways, and railroad were obtained from BAAD.

^b According to BAAD, chronic health risk from these sources was not included in the raster files because risk was found to be low and exceedances were not likely.

^c Health risk associated with Project construction is based on the mitigated modeling results presented in Table 4.1-10.

As shown in Table 4.1-11, the cumulative cancer risk from all sources within 1,000 feet of the Project boundary would be approximately 26 in one million, which would be below the BAAD cumulative threshold of 100 in one million and would be less than significant. The cumulative hazard index from all such sources would be approximately 0.022, which would be below the significance threshold of 10 and would be less than significant. The cumulative PM_{2.5} concentration would be approximately 0.29 µg/m³, which would be below the significance threshold of 0.8 µg/m³ and hence there would not be a significant cumulative impact to which the Project could contribute.

Mitigation Measures

MM 4.1a is required as discussed in Impact 4.1-1 and MM 4.1b is required as discussed in Impact 4.1-2. No additional MMs are required.

4.1.5 References Cited

13 CCR 2025. Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

13 CCR 2449–2449.3 and Appendix A. General Requirements for In-Use Off-Road Diesel-Fueled Fleets. 14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

14 CCR 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

17 CCR 93000. Substances Identified as Toxic Air Contaminants. In Subchapter 7, Toxic Air Contaminants.

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4.2 Greenhouse Gas Emissions

This section describes the environmental setting related to climate change and greenhouse gas (GHG) emissions of the proposed 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Residential and Development (R&D) Project (Proposed Project or Project) site and vicinity, identifies associated regulatory requirements, and evaluates potential impacts from implementation of the Project. Section 4.2.4, Impacts and Mitigation Measures demonstrates that there are no feasible mitigation measures (MMs) to reduce Project impacts to less-than-significant levels.

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR) in June 2023. One of the comment letters received in response to the NOP addressed GHG emissions by suggesting that use of natural gas and diesel fuel at the Project site should be prohibited to better meet the City of Menlo Park (City) climate action goals. The NOP and the comments received in response to it are provided in Appendices G1 and G3 of this EIR.

Information contained in this section is based on the latest version of California Emissions Estimator Model (CalEEMod), Version 2022.1.1.16, to estimate the Project's GHG emissions from both construction and operations. For the relevant data, refer to Appendix I, Air Quality and Greenhouse Gas Emissions, prepared by Dudek in May 2024.

The primary sources reviewed to prepare this section includes the Transportation Impact Analysis, included as Appendix M1, the Bay Area Air District (BAAD)¹ California Environmental Quality Act (CEQA) Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans (BAAD Thresholds) (BAAQMD 2022), and the City of Menlo Park 2030 Climate Action Plan (CAP) (City of Menlo Park 2021).

4.2.1 Environmental Setting

Climate Change Overview

Climate change refers to any significant change in measures of climate—such as temperature, precipitation, or wind patterns—lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017).

The greenhouse effect is the trapping and buildup of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a three-part process as follows: (1) short-wave radiation emitted by the Sun is absorbed by the Earth, (2) the Earth emits a portion of this energy in the form of long-wave radiation, and (3) GHGs in the upper atmosphere absorb this long-wave radiation and emit it both into space and back toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a livable environment on the Earth. Human activities that emit additional GHGs into the atmosphere increase the amount of infrared radiation that gets

¹ The Bay Area Air Quality Management District (BAAQMD) changed its name to the Bay Area Air District (BAAD) in January 2025.

absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. However, recent climate changes, in particular the warming observed over the past century, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of warming since the mid-twentieth century and are the most significant driver of observed climate change (IPCC 2013; EPA 2017). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code, Section 38505(g) GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃) (see also CEQA Guidelines Section 15364.5). Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted into the atmosphere through both natural processes and human activities. Human activities are responsible for greater quantities of CO₂ and CH₄ emissions compared to emissions from natural processes. Manufactured GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as HFCs, PFCs, and SF₆, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.²

Carbon Dioxide. CO₂ is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO₂ include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO₂ are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane. CH₄ is produced through both natural and human activities. CH₄ is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N₂O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N₂O. Sources of N₂O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and

² The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (1995), IPCC Fourth Assessment Report (2007), CARB's "Glossary of Terms Used in GHG Inventories" (2021a), and EPA's "Glossary of Climate Change Terms" (2017).

organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N₂O as a propellant (e.g., rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbons [CFCs], hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF₆ is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF₆ is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- **Nitrogen Trifluoride:** NF₃ is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O₃.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the CARB's regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O₃, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O₃, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O₃, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO₂; therefore, GWP-weighted emissions are measured in metric tons of CO₂ equivalent (MT CO₂e).

Based on the IPCC Fourth Assessment Report (IPCC 2007), the current version of CalEEMod (Version 2022.1.1.16) assumes that the GWP for CH₄ is 25 (so emissions of 1 MT of CH₄ are equivalent to emissions of 25 MT of CO₂), and the GWP for N₂O is 298.

Greenhouse Gas Inventories and Climate Change Conditions

Global Inventory

Anthropogenic GHG emissions worldwide in 2020 (the most recent year for which data is available) totaled approximately 49,800 million metric tons (MMT) of CO₂e, excluding land use change and forestry (PBL 2022). The top six GHG emitters include China, the United States, the Russian Federation, India, Japan, and the European Union, which accounted for approximately 60% of the total global emissions, or approximately 30,270 MMT CO₂e (PBL 2022). Table 4.2-1 presents the top GHG-emissions-producing countries and their estimated emissions in 2020.

Table 4.2-1. Six Top Greenhouse-Gas-Producing Countries and the European Union

Emitting Countries (Listed in Order of Emissions)	Greenhouse Gas Emissions (MMT CO ₂ e) ^a
China	14,300
United States	5,640
European Union	3,440
India	3,520
Russian Federation	2,210
Japan	1,160
Total	30,270

Source: PBL 2022.

Notes: MMT CO₂e = million metric tons of carbon dioxide equivalent.

^a Column may not add due to rounding.

National and State Inventories

Per the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022, total United States GHG emissions were approximately 6,343.2 million MT CO₂e (MMT CO₂e) in 2022 (EPA 2024). Total U.S. emissions have decreased by 3.0% from 1990 to 2022, down from a high of 15.2% above 1990 levels in 2007. Gross emissions increased from 2021 to 2022 by 0.2% (14.4 MMT CO₂e). Net emissions (i.e., including sinks) were 5,489.0 MMT CO₂e in 2022. Overall, net emissions increased 1.3% from 2021 to 2022 and decreased 16.7% from 2005 levels. Between 2021 and 2022, the increase in total GHG emissions was driven largely by an increase in CO₂ emissions from fossil fuel combustion due to the continued economic activity rebounding after the height of the COVID-19 pandemic. The CO₂ emissions from fossil fuel combustion increased by 1.0% from 2021 to 2022, including a 5.0% increase in residential sector emissions, 8.9% increase in commercial sector emissions, 2.6% increase in industrial emissions, a 0.1% decrease in transportation sector emissions and a 0.6% decrease in electric power sector emissions. Carbon sequestration in the Land Use, Land-Use Change, and Forestry sector offset 14.5% of total emissions in 2022 (EPA 2024).

According to California's 2000–2023 GHG emissions inventory (2025 edition), California emitted approximately 360.4 MMT CO₂e in 2023 (CARB 2025). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-GWP substances, and recycling and waste. Table 3-1 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2023. Table 4.2-2 presents California GHG emission source categories and their relative contributions to the emissions inventory in 2023.

Table 4.2-2. Greenhouse Gas Emissions Sources in California

Source Category	Total 2023 GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Transportation	133.7	37%
Industrial uses	66.9	19%
Electricity generation ^b	57.2	16%

Table 4.2-2. Greenhouse Gas Emissions Sources in California

Source Category	Total 2023 GHG Emissions (MMT CO ₂ e)	Percent of Total ^a
Residential and commercial uses	43.3	12%
Agriculture	29.2	8%
High-GWP substances	21.4	6%
Recycling and waste	8.6	2%
Totals	360.4	100%

Source: CARB 2025.

Notes: GHG = greenhouse gas; MMT CO₂e = million metric tons of carbon dioxide equivalent; GWP = global warming potential.

^a Totals may not sum due to rounding.

^b Includes emissions associated with imported electricity.

In 2023, emissions from statewide emitting activities were 360.4 MMT CO₂e, 11.2 MMT CO₂e (3.0%) lower than 2022 levels. Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2014, statewide GHG emissions dropped below the 2020 GHG Limit of 431 MMT CO₂e and have remained below the Limit since that time (CARB 2025).

City of Menlo Park Inventory

Table 4.2-3 presents the City's 2021 baseline GHG emissions and the percent contribution of each emissions source (energy, transportation, and solid waste). Although traffic counts have returned to pre-pandemic levels across all hours of the day within the Bay Area, GHG emissions in more recent years reflect more stringent standards for in-use off-road equipment and vehicles in later years.

Table 4.2-3. City of Menlo Park Baseline Greenhouse Gas Emissions Inventory

Emissions Source	Total 2021 GHG Emissions (MT CO ₂ e)	Percent of Total ^a
Transportation	152,034	54%
Natural Gas	84,253	30%
Electricity	3,111	1%
Solid Waste	7,749	3%
Totals^a	282,558	100%

Source: City of Menlo Park 2024.

Notes: GHG = greenhouse gas; MT CO₂e = metric tons of carbon dioxide equivalent per year.

^a Totals may not sum precisely due to rounding.

As shown in Table 4.2-3, the primary generators of GHGs within the City were attributed to transportation and natural gas, accounting for 54% and 30% of the City's GHG emissions in 2021, respectively.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* (IPCC 2014) indicated that warming of the climate system is

unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87 °C, or likely between 33.35 °F and 33.78 °C, higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0 °C (1.8 °F) of global warming above pre-industrial levels, with a likely range of 0.8 °C to 1.2 °C (1.4 °F to 2.2 °F) (IPCC 2018). Global warming is likely to reach 1.5 °C (2.7 °F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting the state. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernable evidence that climate change is occurring within the state and is having significant, measurable impacts. Changes in the state's climate have been observed including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers, and snowpack—on which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life-cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (in 2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the

state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment (CNRA 2018a) includes reports for nine regions of the state. Key highlights for the San Francisco Bay Area Region (which includes San Mateo County where the Proposed Project is located) include the following (CNRA 2018a):

- The impacts of climate change are already being felt in the San Francisco Bay Area and Northern California:
 - Overall, the Bay Area's average annual maximum temperature increased by 1.7°F (0.95°C) from 1950 to 2005.
 - Several studies suggest that coastal fog along the California coast, so critical to the Bay Area climate, is less frequent than before.
 - Sea level in the Bay Area has risen over 20 centimeters (8 inches) in the last 100 years.
 - The powerful 2015–2016 El Niño, one of the three largest in the historical record, resulted in winter wave energy that was over 50% larger than the typical winter in the Bay Area, driving unprecedented outer coast beach erosion.
 - The 2012–2016 California drought led to the most severe moisture deficits in the last 1,200 years and a 1-in-500 year low in Sierra snowpack. The 2012–2016 record low snowpack resulted in \$2.1 billion in economic losses and 21,000 jobs lost in the agricultural and recreational sectors statewide and exacerbated an ongoing trend of groundwater overdraft.
- These changes are projected to increase significantly in the coming decades over the region:
 - Even with substantial global efforts to reduce GHG emissions, the Bay Area will likely see a significant temperature increase by mid-century. By the end of the century, the difference between lower and higher global emissions scenarios will make a major difference in how much Bay Area temperatures rise.
 - Precipitation in the Bay Area will continue to exhibit high year-to-year variability — “booms and busts” — with very wet and very dry years. The Bay Area's largest winter storms will likely become more intense, and potentially more damaging, in the coming decades. Under a high emissions scenario, average Sierra Nevada snowpack is projected to decline by nearly 20% in the next 2–3 decades, 30% to 60% in mid-century, and by over 80% in late century.
 - Future increases in temperature, regardless of whether total precipitation goes up or down, will likely cause longer and deeper California droughts, posing major problems for water supplies, natural ecosystems, and agriculture.
 - California's Fourth Climate Change Assessment projects median sea level rise between 0.74 meters (2.42 feet) and 1.37 meters (4.49 feet) for 2100 along the California coast. However, recent science studies, using advanced models and ice sheet observations, suggest the possibility of extensive loss from Antarctic ice sheets in the 21st century — possibly producing sea level rise by 2100 that could approach 3 meters (10 feet).
 - Even with high levels of emissions reductions, research now suggests that at least 2 meters (7 feet) of sea level rise is inevitable over the next several centuries due to the lag of sea level rise in response to increasing global temperatures.

- Changes in temperature, precipitation, and sea level rise will produce substantial impacts on Bay Area social systems and the built environment:
 - The three-way relationship between land use, transportation infrastructure, and energy systems — all of which are vulnerable to climate impacts — is perhaps the most critical interdependence in determining the future growth and prosperity of the Bay Area.
 - Future land use decisions will significantly influence the Bay Area's efforts to address climate change, affecting building and transportation energy, urban water demand, and wildfire ignitions. For example, the critical lack of affordable housing in the core of the region is forcing households further south, north, and inland, with negative energy and environmental consequences. At the same time, building energy demand is higher in inland regions (warmer summers/cooler winters) so reducing Bay Area energy consumption will strongly depend on where new housing and business growth are located.
 - Much of the Bay Area's transportation system — airports, roads, and railways — is concentrated along the bay where flooding from sea level rise and storm surge is a major vulnerability.
 - The Bay Area electrical grid is vulnerable to power outages during wind and wildfire events while much of the natural gas transmission system is located along waterways and will be impacted by flooding from sea level rise and extreme storm events.
 - Warmer summers will increase summer energy demand across the region, with the largest increase expected in coastal cities as air conditioning adoption grows there.
 - Climate impacts — such as earlier melting of snowpack, increasing seawater intrusion into groundwater, increased rates of evapotranspiration, and levee failures or subsidence that contaminate water in the Delta — will affect both the quantity of water available and the quality of water supplies.
 - Wastewater treatment plants, historically located along bay shorelines where effluent discharge was convenient, are now highly vulnerable to future sea level rise. Rising bay water and groundwater levels will also increase salinity intrusion and subsurface flooding.
 - Increasing size and frequency of extreme storm events will require improved stormwater management.
 - Bay Area public health is threatened by a number of climate-related changes, including more extreme heat events, increased air pollution from O₃ formation and wildfires, longer and more frequent droughts, and flooding from sea level rise and high-intensity rain events.
 - High levels of socioeconomic inequity in the Bay Area create large differences in the ability of individuals to prepare for and recover from heat waves, foods, and wildfires. Financial resources as well as improved social structures are important to enhance community resilience and reduce these disparities.
 - Heat waves pose increased health risks due to urban heat islands and lack of local experience and cooling infrastructure (air conditioning) in bayside cities. These risks are compounded for low-income communities.
 - Natural infrastructure can play an important role in climate change adaptation, enhancing biodiversity and ecosystem services while reducing societal risks.
 - While bayside communities are on the front lines for future food risk, many may have limited ability or resources to pursue adaptation strategies. Without inclusive engagement among communities, disparities in economic and political power will undermine regional solutions and

- leave communities acting independently, with highly variable results for resilience and community health.
- Climate change will produce substantial impacts on Bay Area natural and managed resource systems:
 - The future climate of the Bay Area will become less suitable for evergreen forests—redwoods and Douglas fir—and more favorable for hot-adapted vegetation such as chaparral shrub land.
 - The ability of vegetation to respond to the rapidly changing conditions in the 21st century is poorly understood. It is possible that vegetation will be increasingly “out of sync” with climate and vulnerable to heat and drought.
 - The most threatening effect of climate change to Bay Area wildlife is the impact of rising sea levels on wetlands because of the limited potential for wetlands to move inland and become established. At the same time, less rainfall, more summer heat, and increased drought will hurt amphibians and reptiles, while heat and wildfires may negatively affect upland birds, mammals, amphibians, and reptiles. Some wildlife species may need to shift locations as the vegetation they inhabit transforms with a changing climate.
 - The Bay Area’s mild climate and accessible open spaces are vital to the region’s quality of life. Regional conservation efforts, including coordinated open space protection design and implementation of landscape corridors, climate-smart conservation, and restoration practices, will enhance success in a changing climate.
 - In the Bay Area, future fire activity will be driven by both changes in urban development and in climate. Land use planning, together with fire-safe building standards and near-building vegetation management, are important strategies for managing future fire risk to people and structures.
 - Forests can play an important role in carbon sequestration. Fuel and fire management will be critical, as fire is the primary source of carbon loss from forests. Recently, carbon loss from fires exceeded carbon uptake by vegetation in California.
 - Nearly every aspect of Bay-Delta ecosystems will be affected by climate change as a result of rising sea levels, increases in air temperatures, changes in precipitation, changes in sediment supply and more. All-natural areas of the shore will need to adapt or transform.
 - The interruption of natural processes over the past 200 years as the region has developed has decreased natural Bay-Delta resiliency. A dynamic, resilient ecosystem has become a rigid landscape with brittle features that will have trouble adapting. New approaches that use natural shoreline infrastructure, like beaches, marshes, and mudflats, together with managed retreat where necessary, can create more resilient shorelines that respond well to changing conditions.
 - Nearly 70% of California’s existing area of wine production will be vulnerable under future climate change projections by mid-century. Wine grape production in the Bay Area could be vulnerable to extreme temperatures and temperature-related water scarcity.
 - The sensitivity of Bay Area rangeland vegetation to precipitation dynamics makes these ecosystems particularly vulnerable to climate change. Changes in rainfall regimes are also likely to affect plant production and associated patterns in soil carbon and GHG production. Grazing and rangeland management practices can play a significant role in enhancing soil moisture and belowground carbon sequestration. Current research highlights the potential role

of compost together with grazing on California pasturelands as a targeted strategy to increase carbon sequestration.

- A growing number of Bay Area local governments, regional agencies, non-profits, and private sector stakeholders are taking actions that advance climate adaptation and resilience:
 - Projects include comprehensive vulnerability assessments, plans for infrastructure improvements, new governance structures, and actual on-the-ground projects to address sea level rise, drought, and other climate impacts.
 - Examples include Resilient by Design: Bay Area Challenge, the Sonoma County Regional Climate Authority, Adaptation to Rising Tides, the Bay Area Regional Reliability Project, Bay Area Regional Health Inequities Initiative, San Francisco Climate & Health Profile, RISE SF Bay, Marin County C-SMART, Sea Change San Mateo County, Climate Ready North Bay, and the San Francisco Bay.

4.2.2 Regulatory Framework

International

United Nations Framework Convention on Climate Change, Kyoto Protocol, and Paris Agreement

In 1992, numerous countries joined an international treaty, the United Nations Framework Convention on Climate Change (UNFCCC), as a framework for international cooperation to combat climate change by limiting average global temperature increases and the resulting climate change, and coping with associated impacts. Currently, there are 197 Parties (196 States and 1 regional economic integration organization) in the UNFCCC (UNFCCC 2019).

By 1995, countries launched negotiations to strengthen the global response to climate change, and 2 years later, adopted the Kyoto Protocol, which was the first international agreement to regulate GHG emissions. The Kyoto Protocol legally binds developed country Parties to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. The second commitment period began on January 1, 2013 and ended in 2020. More than 160 countries signed the Kyoto Protocol (UNFCCC 2019). In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended the United States involvement in the Kyoto Protocol.

The 2015 Paris Agreement, adopted in Paris on December 12, 2015, marks the latest step in the evolution of the UN climate change regime and builds on the work undertaken under the Convention. The Paris Agreement charts a new course in the global effort to combat climate change. The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C (UNFCCC 2019). The Paris Agreement also aims to strengthen the ability of countries to deal with the impacts of climate change. The Paris Agreement requires all Parties to put forward their best efforts through nationally determined contributions and to strengthen these efforts in the years ahead.

The Paris Agreement entered into force on November 4, 2016, thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55% of the total global GHG

emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary (UNFCCC 2019). On June 2, 2017 President Donald Trump announced his intention to withdraw from the Paris Agreement, which was formally recognized on November 4, 2019. President Joe Biden re-joined the Paris Agreement on January 21, 2021, which was accepted by the United Nations; the United States was formally re-entered into the Paris Agreement on February 29, 2021, and again removed from the agreement on January 27, 2026.

Federal Regulations

Massachusetts v. EPA

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the U.S. Environmental Protection Agency (EPA) administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
- The Administrator further found the combined emissions of GHGs—CO₂, CH₄, N₂O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- 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 directs 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.

President Trump’s Executive Order 14154 may also impact EISA. The order declared a national energy emergency and direct federal agencies to expedite the permitting and production of domestic energy

resources. This emphasis on increasing fossil fuel production and reducing regulatory barriers may undermine the EISA's objectives of enhancing energy efficiency and promoting renewable energy.

Federal Vehicle Standards

In 2007, in response to the *Massachusetts v. EPA* U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 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. Beginning in 2009, the NHTSA issued various rules regulating fuel efficiency and GHG emissions from cars and light-duty trucks.

In 2010, President Barack Obama issued a memorandum 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 through 2025 light-duty vehicles. The standards projected to achieve 163 grams/mile of CO₂ 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 through 2021 (77 FR 62624–63200).

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 through 2018. The standards for CO₂ 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% over the 2010 baselines (76 Fed. Reg. 57106–57513).

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 sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

On April 2, 2018, the EPA, under administrator Scott Pruitt, reconsidered the final determination for light-duty vehicles and withdrew its previous 2017 determination, stating that the current standards may be too stringent and therefore should be revised as appropriate.

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards then in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2% to 3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2018). 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.

In 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient Vehicles Rule Part One: One National Program (SAFE-1) (84 FR 51310), which revoked California's authority to set its own GHG emissions standards and set zero-emission vehicle (ZEV) mandates in California. In March 2020, Part Two was issued, which set CO₂ emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026.

On December 21, 2021, the NHTSA finalized the Corporate Average Fuel Economy Preemption rulemaking to withdraw its portions of the Part One Rule. The final rule concluded that the Part One Rule overstepped the agency's legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. Then, in March 2022, the NHTSA established new fuel economy standards that would require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light trucks by model year 2026 by increasing fuel efficiency by 8% annually for model years 2024 and 2025, and 10% annually for model year 2026.

In June 2024, the EPA and NHTSA finalized the new Corporate Average Fuel Economy (CAFE) standards for passenger cars and light trucks for model years 2027 through 2031. These standards mandate a 2% annual increase in fuel economy for passenger cars from MY 2027 to 2031, and for light trucks, a 2% annual increase from model years 2029 to 2031. By model year 2031, the average fuel economy for light-duty vehicles is projected to reach approximately 50.4 miles per gallon. In December 2025, the federal administration announced a reset of the CAFE standards and initiated rulemaking to revise the fuel-economy targets previously adopted in 2024. The proposal would substantially reduce the projected fleetwide fuel-economy requirement for light-duty vehicles, with preliminary estimates indicating an average of approximately 34.5 miles per gallon by model year 2031 rather than the previously projected 50.4 miles per gallon.

President Trump's Executive Order 14154 issued on January 10, 2025 called for EPA to consider the legality and applicability of the 2009 Endangerment Finding for Greenhouse Gases. EPA finalized its rescission of that finding on February 12, 2026.

Clean Power Plan and New Source Performance Standards for Electric Generating Units

On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO₂ emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO₂ emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits.

Executive Order 13990

On January 20, 2021, President Biden issued Executive Order (EO) 13990, “Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.” Section 7(e) of this EO directs the White House Council on Environmental Quality (CEQ) to rescind the 2019 Draft GHG Guidance and review, revise, and update its 2016 GHG Guidance. Among its key provisions, the order directed federal agencies to review and potentially revise a range of policies, regulations, and actions that were inconsistent with the Biden administration's commitment to combatting climate change and promoting environmental sustainability. The order also sought to reestablish interagency working groups and committees that had been disbanded or sidelined during the previous administration, with a focus on restoring evidence-based decision-making processes. In January 2025, President Trump revoked EO 13990.

Infrastructure Investment and Jobs Act

The Infrastructure Investment and Jobs Act (Infrastructure Deal) was signed into law November 15, 2021. The legislation includes \$39 billion of new investment to modernize transit, in addition to continuing the existing transit programs for five years as part of surface transportation reauthorization. The Infrastructure Deal would also invest \$7.5 billion to build out a national network of electric vehicle (EV) chargers. The Infrastructure Deal would provide funding for deployment of EV chargers along highway corridors to facilitate long-distance travel and within communities to provide convenient charging where people live, work, and shop to support a goal of building a nationwide network of 500,000 EV chargers. This would accelerate the adoption of EVs, which would help reduce emissions and improve air quality. In addition, the Infrastructure Deal would include more than \$65 billion of investments in clean energy transmission, including upgrading existing power infrastructure through expanding transmission lines to facilitate the expansion of renewables and clean energy.

EO 14057

President Joe Biden signed EO 14057 on December 8, 2021, setting a path for reducing GHG emissions across federal operations, investing in clean energy industries and manufacturing, and creating clean, healthy, and resilient communities to achieve carbon neutrality by 2050. The EO outlines five goals:

- 100% carbon pollution-free electricity by 2030, at least half of which will be locally supplied clean energy to meet 24/7 demand;
- 100% zero-emission vehicle acquisitions by 2035, including 100% zero-emission light-duty vehicle acquisitions by 2027;
- Net-zero emissions from federal procurement no later than 2050, including a Buy Clean policy to promote use of construction materials with lower embodied emissions;
- A net-zero emissions building portfolio by 2045, including a 50% emissions reduction by 2032; and
- Net-zero emissions from overall federal operations by 2050, including a 65% emissions reduction by 2030.

The Inflation Reduction Act of 2022

The Inflation Reduction Act (IRA) was signed into law by President Biden in August 2022. The bill includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the U.S.

by 40% as compared to 2005 levels by 2030. The bill allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of EVs, and includes measures that will make homes more energy efficient.

President Trump's Day One executive orders have significantly impacted IRA. One of his key actions was to pause the disbursement of funds from the IRA, particularly those related to climate change mitigation and incentives for electric vehicle charging. The move has put billions of dollars in funding at risk, potentially jeopardizing projects aimed at reducing GHG emissions and promoting renewable energy. However, some aspects of the IRA remain intact, as the Office of Management and Budget (OMB) clarified that funds not directly related to policies targeted by the executive orders could still be disbursed. This means while many climate-related initiatives are in peril, other provisions of IRA that do not conflict with the new administration's policies may continue to receive funding.

EPA National Pollution Standards

In March 2024, the EPA announced a final rule, Multi-Pollutant Emissions Standards for passenger-carrying light-duty vehicles and medium-duty vehicles, also known as Class 2b and 3 vehicles. These new standards aim to significantly reduce GHG and other toxic air emissions from new passenger cars, light trucks, and larger pickups and vans.

These standards will be phased in gradually over model years (MYs) 2027 through 2032. For light-duty vehicles, these standards are projected to achieve an industry-wide target of 85 grams/mile of CO₂ by MY 2032. This would represent a nearly 50% reduction in projected average emissions for the light-duty fleet, relative to the existing MY 2026 standards. For medium-duty vehicles, these new standards are projected to achieve an industry-wide target of 274 grams/mile of CO₂ by MY 2032. This would represent a nearly 44% reduction in projected average emissions for the medium-duty fleet, relative to the existing MY 2026 standards.

Fuel Efficiency Standards for Construction Equipment

The federal government sets fuel efficiency standards for off-road diesel engines that are used in construction equipment. The regulations, contained in 40 CRF Parts 1039, 1065, and 1068, include multiple tiers of emission standards. Most recently, the EPA adopted a comprehensive national program to reduce emissions from off-road diesel engines by integrating engine and fuel controls as a system to gain the greatest reductions.

State Regulations

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

The state has taken a number of actions to address climate change. As summarized below, these include EOs, legislation, and CARB plans and requirements.

EO S-3-05

EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2006, 2010).

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

EO B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in Executive Order S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the scoping plan to express the 2030 target in terms of million metric tons (MMT) CO₂e and for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill 32 and AB 197

Senate Bill (SB) 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities;

and requires CARB to identify specific information for GHG emissions reduction measures when updating the GHG reduction scoping plan required under AB 32. The scoping plan is discussed in detail below.

CARB's 2007 Statewide Limit

In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO₂e). This 2020 target was later revised to 431 MMT CO₂e based on updated GWP data identified by the IPCC. As discussed in Section 4.2.1, Environmental Setting, per capita GHG emissions in California dropped from a peak of 13.8 MT per person to 9.3 MT per person in 2020, a 33% decrease. In addition, overall trends in the statewide inventory continue to demonstrate a trend of declining carbon intensity of California's economy (CARB 2023).

CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (California Health and Safety Code, Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)* included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (17 CCR 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by

2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)* defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012. The *First Update* concluded that California was on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The *First Update* recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including: energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the *First Update*, CARB recalculated the state's 1990 emissions level, using more recent global warming potentials identified by the IPCC, from 427 MMT CO₂e to 431 MMT CO₂e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The Governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In December 2017, CARB released the 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB 2017). The Second Update built upon the successful framework established in the initial Scoping Plan and First Update, while identifying new technologically feasible and cost-effective strategies that served as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" included implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, the Second Update recommended continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%. The Second Update was approved by CARB's Governing Board on December 14, 2017.

The Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) was issued on November 16, 2022 (CARB 2022) and approved on December 15, 2022. The 2022 Scoping Plan lays out a path not just to carbon neutrality by 2045 but also to the 2030 GHG emissions reduction target. The 2022 Scoping Plan analyzed four scenarios, with the objective of informing the most viable path to remain on track to achieve the 2030 GHG reduction target. The scenario modeling indicates that, if the plan described in the Proposed Scenario is fully implemented, and done so on schedule, the State would cut GHG emissions by 85% below 1990 levels, result in a 71% reduction in smog-forming air pollution, reduce fossil fuel consumption by 94%, create 4 million new jobs, among other benefits (CARB 2022). In addition to GHG emission reductions, the Proposed Scenario includes strategies for carbon removal and sequestration.

The 2022 Scoping Plan details “Local Actions” in Appendix D. The Local Actions includes recommendations intended to build momentum for local government actions that align with the State’s climate goals, with a focus on local GHG reduction strategies (commonly referred to as climate action planning) and approval of new land use development projects, including through environmental review under CEQA. The recommendations provided in Appendix D are non-binding and should not be interpreted as a directive to local governments, but rather as evidence-based analytical tools to assist local governments with their role as essential partners in achieving California’s climate goals.³ Appendix D recognizes consistency with a CEQA-qualified GHG reduction plan such as a Climate Action Plan as a preferred option for evaluating potential GHG emission impacts under CEQA.

The Scoping Plan also recommends strategies for carbon removal and sequestration, implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs; it also establishes an overall framework for the measures that will be adopted to reduce California’s GHG emissions. A project is considered consistent with the statutes and EOs if it would meet the general policies in reducing GHG emissions to facilitate the achievement of the state’s goals and would not impede attainment of those goals.

EO B-55-18

EO B-55-18 (September 2018) establishes a new statewide goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” This EO directs CARB to “work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.”

AB 1279

The Legislature enacted AB 1279, the California Climate Crisis Act, in September 2022. The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

Building Energy

Title 24, Part 6

Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California’s building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of “reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy” (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402[d])

³ The threshold approaches outlined in the 2022 Scoping Plan, Appendix D, are recommendations only and are not requirements; they do not supplant lead agencies’ discretion to develop their own evidence-based approaches for determining whether a project would have a potentially significant impact on GHG emissions.

and cost effectiveness (California Public Resources Code, Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The CEC updates the Title 24 Energy Code every 3 years. The 2025 Title 24 standards are the currently applicable building energy efficiency standards and became effective on January 1, 2026. When compared to the 2022 Title 24 Standards, the 2025 amendments include measures that will further reduce energy use in single family, multifamily, and nonresidential buildings, through the following strategies (CEC 2025):

- Expanded use of heat pumps in newly constructed residential buildings.
- Encouraging electric-readiness for buildings, aligning with California's Net Zero 2045 goals.
- Strengthened ventilation standards
- Tightened performance criteria for heating, ventilation, and air conditioning systems, with a preference for electric heat pump systems over gas-fired systems.
- Non-residential projects must include light sensors, occupancy controls, and dimming systems in more areas.

Title 24, Part 11

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24), which is commonly referred to as CALGreen, establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. As noted above, the 2025 CALGreen standards are the current applicable standards. The mandatory CALGreen 2025 standards for non-residential buildings are designed to conserve water, reduce air contaminants, and enhance the environmental quality of the building site. The standards also focus on material conservation and resource efficiency, ensuring that non-residential buildings are built with environmentally responsible practices in mind. The mandatory standards involve requirements related to bicycle parking, designated parking for clean air vehicles, EV charging stations, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11). The CALGreen standards also include voluntary efficiency measures that are implemented at the discretion of local agencies and applicants. Compliance with the CALGreen code is enforced through the building permit process.

Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance

covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1

SB 1 (Murray) (August 2006) established a \$3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed “Go Solar California,” was previously titled “Million Solar Roofs.”

Renewable Energy and Energy Procurement

SB 1078

SB 1078 (Sher) (September 2002) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and S-21-09).

SB 1368

SB 1368 (September 2006) required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

AB 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption by 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08

EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The CNRA, through collaboration with the CEC and California Department of Fish and Wildlife, was directed to lead this effort.

EO S-21-09 and SBX1-2

EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

SB 350

SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see California Public Utilities Code Section 740.12).

SB 100

SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources does not increase carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers come from eligible renewable energy resources and zero-carbon resources: 90% by December 31, 2035, 95% by December 31, 2040, and 100% by December 31, 2045.

Mobile Sources

State Vehicle Standards (AB 1493 and EO B-16-12)

AB 1493 (July 2002) was enacted in response to the transportation sector accounting for more than half of California's CO₂ emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 identified a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the "Federal Vehicle Standards" description in Section 3.2.1, Federal Regulations, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California's authority to set its own GHG emissions standards and set ZEV mandates in California.

As also explained in Section 3.2.1, in March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Heavy-Duty Diesel

The Heavy-Duty Truck and Bus Regulation that went into effect January 2012, requires diesel particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. CARB adopted the proposed amendments to the Heavy-Duty Truck and Bus Regulation on December 31, 2014, to reduce diesel particulate matter, a major source of black carbon, and oxides of nitrogen emissions from heavy-duty diesel vehicles (13 CCR, Part 2025). The rule requires nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR, Part 2485).

EO S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO₂e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 and 20% by 2030 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

SB 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sectors for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If an MPO is unable to devise an SCS to achieve the GHG reduction target, the MPO must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code, Section 65080(b)(2)(K), an SCS does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

On September 23, 2010, CARB adopted the SB 375 targets for the regional MPOs. CARB set a target of 7% per capita reduction by 2020 and a 15% per capita reduction by 2035 for the Bay Area. The Metropolitan Transportation Commission (MTC), which is the MPO for the Bay Area, as well as the Association of Bay Area Governments (ABAG), adopted *Plan Bay Area 2050* in October 2021 (MTC and ABAG 2021), which is the RTP/SCS for the Bay Area. *Plan Bay Area 2050* is a long-range plan for transportation projects within the planning area. A key focus in *Plan Bay Area 2050* is understanding interrelated elements of housing, the economy, transportation, and the environment and implementing strategies to improve conditions throughout the Bay Area, including reducing per capita GHG emissions to comply with SB 375.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars (ACC) program (January 2012) is an emission-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide fuels for clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025, cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the

EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emission vehicle program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emission vehicles and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program establishes the next set of low-emission vehicle and zero-emission vehicle requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2021b). The main objectives of ACC II are:

1. Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
2. Accelerate the transition to zero-emission vehicles through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

An ACC II rulemaking package, which will consider technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts, was adopted by CARB in August 2022. In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and zero emission vehicle (ZEV) sales mandate (EPA 2022). This action concludes the agency's reconsideration of 2019's SAFE I by finding that the actions taken under the previous administration as a part of SAFE I were decided in error and are now entirely rescinded. In June 2025, the federal administration announced actions asserting that California's ACCs and Advanced Clean Trucks regulations are preempted under the Clean Air Act. These actions are currently subject to litigation, and the future enforceability of these programs by the CARB remains uncertain.

Advanced Clean Trucks Regulation

The Advanced Clean Trucks Regulation was also approved by CARB in 2020. The purpose of the Advanced Clean Trucks Regulation is to accelerate the market for zero-emission vehicles in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2021c). The regulation has two components including (1) a manufacturer sales requirement and (2) a reporting requirement:

- Zero-emission truck sales: Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b-3 truck sales, 75% of Class 4-8 straight truck sales, and 40% of truck tractor sales.
- Company and fleet reporting: Large employers including retailers, manufacturers, brokers and others will be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

EO B-16-12

EO B-16-12 (March 2012) required that state entities under the Governor's direction and control support and facilitate the rapid commercialization of zero-emission vehicles. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

EO N-79-20

EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the state towards the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the state towards the target of 100% of the fleet transitioning to ZEVs by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other state agencies, the EPA, and local air districts, to achieve 100% zero emissions from off-road vehicles and equipment operations in the state by 2035. EO N-79-20 called for the development of a ZEV Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions, and investment strategies, to improve clean transportation, sustainable freight, and transit options; and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the state transitions to a carbon-neutral economy.

AB 1236

AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of EV charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of EV charging stations is a matter of statewide concern. The bill required EV charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for EV charging stations, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

Water

SB X7-7

SB X7-7, or the Water Conservation Act of 2009, required that all water suppliers increase their water use efficiency with an overall goal of reducing per capita urban water use by 20% by December 31, 2020. Each urban water supplier was required to develop water use targets to meet this goal.

EO B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

EO N-10-21

In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Solid Waste

AB 939, AB 341, AB 1826, and AB 1383

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations and an evaluation of program effectiveness (CalRecycle 2015).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

SB 1383 (Chapter 395, Statutes of 2016) establishes targets to achieve a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025. CalRecycle was granted the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that not less than 20% of currently disposed edible food is recovered for human consumption by 2025 (CalRecycle 2019).

Other State Actions

SB 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all MMs necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The Guidelines require a lead agency to consider the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance-based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency

should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08

EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018b).

Amendments to the Small Off-Road Engine Regulations: Transition to Zero Emissions

On December 9, 2021, CARB approved proposed amendments to the SORE Regulations, which would require most newly manufactured small off-road engines (SORE), such as those found in leaf blowers, lawn mowers and other equipment, be zero emission starting in 2024. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028.

Assembly Bill 1757

AB 1757 (September 2022) requires the CNRA to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Regional and Local Regulations

Bay Area Air District

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution impacts under CEQA. This may include recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigations for potentially significant impacts. As discussed in Section 4.2.3, Thresholds of Significance, BAAD has established recommended CEQA significance thresholds for GHG emissions for lead agencies to use in assessing GHG impacts.

Metropolitan Transportation Commission and Association of Bay Area Governments

SB 375 requires MPOs to prepare an SCS in their RTP. In the Bay Area, the MTC and the ABAG are jointly responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by CARB. Plan Bay Area 2050 is a 30-year plan that charts a course for a Bay Area that is affordable, connected, diverse, healthy, and vibrant for all residents through 2050 and beyond. There are 35 strategies that comprise the heart of the plan to improve housing, the economy, transportation and the environment across the Bay Area's nine counties (MTC and ABAG 2021). Under Plan Bay Area 2050's strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70% for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from 50% in 2015 to 33% in 2050. If all strategies are implemented in full, GHG emissions from transportation would decrease significantly and the Bay Area would meet the state mandate of a 19% reduction in per capita emissions by 2035 (MTC and ABAG 2021).

City of Menlo Park 2030 Climate Action Plan

In April 2021, the City of Menlo Park adopted its amended 2030 CAP to reduce GHG emissions within the City in order to meet the goal of reducing GHG emissions by 90% from 2005 baseline levels by 2030 (City of Menlo Park 2021). The City updated their inventory of GHG emissions in December 2019 which revealed that GHG emissions in Menlo Park fell from 349,284 MT CO₂e in 2005 to 284,378 MT CO₂e in 2017, a reduction of 19%. The aim of the 2030 CAP is to reduce community-wide emissions by another 71% for a total reduction of 90% from 2005 emissions, leaving just 34,933 MT CO₂e per year by 2030 (City of Menlo Park 2021).

Under CEQA, local agencies must evaluate the environmental impacts of new development projects, including impacts from GHG emissions associated with construction and operation. Per the state CEQA Guidelines Section 15183.5(b), a qualified GHG reduction plan must:

- Quantify existing and projected GHG emissions within the plan area.
- Establish a reduction target based on SB 32.
- Identify and analyze sector specific GHG emissions from plan activities.
- Specify policies and actions (measures) that local jurisdictions will enact and implement over time to achieve a specified reduction target.
- Establish a tool to monitor progress and amend if necessary.
- Adopt the CAP in a public process following environmental review.

The 2030 CAP Update however did not undergo environmental review, and is therefore not a "qualified" GHG reduction plan as defined by the state CEQA Guidelines.

The 2030 CAP establishes robust actions for helping the City achieve its 2030 targets while accommodating growth, however, federal, state, and local efforts contemplated in the future are too speculative to support definitive statements. Overall, the proposed actions would reduce the City's GHG emissions by approximately 98,748 MT CO₂e per year. Additional continuing efforts would be required to meet the City's 2030 goal of reducing GHG emissions by 249,447 MT CO₂e per year by 2030. The six actions are as follows:

1. Explore policy/program options to convert 95% of existing buildings to all-electric by 2030
2. Set citywide goal for increasing EVs and decreasing gasoline sales
3. Expand access to EV charging for multifamily and commercial properties
4. Reduce vehicle miles travelled (VMT) by 25% or an amount recommended by the Complete Streets Commission
5. Eliminate the use of fossil fuels from municipal operations
6. Develop a climate adaptation plan to protect the community from sea level rise and flooding

City of Menlo Park General Plan

Policies pertaining to promoting sustainability and reducing GHG emissions are addressed in the Land Use, Circulation, and Open Space/Conservation Elements of the City's General Plan. Relevant General Plan policies related to air quality are included below.

Land Use Element

Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.

Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" water (recycled/nonpotable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses, as feasible.

Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency in preparation of State zero-net energy requirements for residential construction in 2020 and commercial construction in 2030.

Circulation Element

Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.

Policy CIRC-3.1: Support development and transportation improvements that help reduce per service population (or other efficiency metric) VMT [vehicle miles traveled].

Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technologies that help reduce per capita (or other efficiency metric) greenhouse gas emissions.

Goal CIRC-4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.

Policy CIRC-4.1: Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce GHG emissions.

Policy CIRC-4.2: Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.

Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.

Open Space/Conservation Element

Goal OSC 4: Promote Sustainability and Climate Action Planning.

Policy OSC 4.1: Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential developments.

Policy OSC 4.2: Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.

Policy OSC 4.3: Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives.

Policy OSC 4.4: Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.

Policy OSC 4.5: Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.

Policy OSC 4.6: Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.

Policy OSC4.7: Waste Management Collaboration. Continue to support and participate in efforts such as those from the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.

Policy OSC 4.8: Develop and implement a zero waste policy, or implement standards, incentives, or other programs that would lead the community towards a zero waste goal.

Policy OSC4.10: Energy Upgrade California. Consider actively marketing and providing additional incentives for residents and businesses to participate in local, state, and/or federal renewable energy or energy conservation programs.

Goal OSC 5: Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.

Policy OSC 5.3: Encourage water-conserving practices in businesses, homes and institutions.

City of Menlo Park Municipal Code

Sections 12.18.020 through 12.18.070 of the Menlo Park Municipal Code pertain to 2022 amendments to the CALGreen EV charging requirements within the California Building Standards Code. The EV requirements are intended to increase the availability of EV charging infrastructure within the city and lower barriers for those looking to shift from fossil-fuel vehicles. New multi-family residential developments and non-residential developments with 10,000 square feet or more are required to comply with local amendments to the CALGreen code and install EV chargers. Additional amendments may be made to reflect the 2025 California Building Standards Code. All Project buildings would be constructed in accordance with the Building Standards and Municipal Code requirements in effect at the time building permits are issued.

New high-rise buildings (more than three stories) with at least 10,000 square feet of space require a minimum of a 5-kilowatt photovoltaic system. In addition, Municipal Code Section 16.44.130 applies green building requirements to development projects within the LS zone district. This includes the following standards:

- 100% of the project's energy demand be met through on-site generation and/or renewable energy sources or be offset through the purchase of certified renewable energy credits;
- Projects that construct at least 100,001 square feet must meet LEED Gold standards;
- Projects must comply with the EV charging spaces requirements in Municipal Code Section 16.72.010;
- Projects that construct at least 100,001 square feet must enroll in the EPA Energy Star Building Portfolio Manager and submit documentation of compliance;
- Projects that construct at least 100,001 square feet must prepare and submit a proposed water budget and accompanying calculations and complete the verification process 12 months after the certificate of occupancy is issued;
- Projects must attain indoor and outdoor water use efficiency standards and be dual plumbed for the internal use of recycled water; and
- Projects must prepare and implement a zero-waste management plan.

In addition, Menlo Park Municipal Code Chapter 12.48 establishes landfill diversion requirements for solid waste generated during demolition and construction, which includes providing an opportunity for salvage and recovery of interior building fixtures and finishes such as doors, cabinets, plumbing and electrical

fixtures and flooring, and diverting 65% of waste generated during demolition and construction from landfills through recycling, reuse, salvage, and other diversion programs. As part of a building or demolition permit application, project applicants must submit estimated tonnage of Construction and Demolition debris and plans for diverting materials to the building division.

4.2.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts associated with GHG emissions and related climate change effects are based on CEQA Guidelines Section 15130 and Appendix G. According to Appendix G of the CEQA Guidelines, a significant impact related to greenhouse gas emissions would occur if the Project would:

- A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, establish specific thresholds of significance, or mandate specific MMs. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance that are consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009). Regarding impacts from GHGs, both BAAD and the California Air Pollution Control Officers Association consider GHG impacts to be exclusively cumulative impacts (BAAQMD 2022; CAPCOA 2008); therefore, assessment of significance is based on a determination of whether the GHG emissions from a project represent a cumulatively considerable contribution to the global atmosphere.

Bay Area Air District Thresholds

The first significance criterion is: "Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?" This analysis considers the updated BAAD Thresholds, which identify operational measures that should be applied to all projects in order to avoid cumulatively considerable GHG emissions. (BAAD does not have a numeric threshold for GHG emissions for construction or operations.) Projects that comply with either option A or option B, as shown below, would result in a less than cumulatively considerable contribution and no further action would be required (BAAQMD 2022).

- A. Projects must include, at a minimum, the following project design elements:
 - 1. Buildings
 - a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
 - b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the state CEQA Guidelines.

2. Transportation

- a. Achieve compliance with EV requirements in the most recently adopted version of CALGreen Tier 2.
 - b. Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15%) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
 - I. Residential projects: 15% below the existing VMT per capita
 - II. Office projects: 15% below the existing VMT per employee
 - III. Retail projects: no net increase in existing VMT
- B. Be consistent with a local GHG Reduction Strategy that meets the criteria under the CEQA Guidelines section 15183.5(b).

This assessment uses BAAD's Option A threshold, since the City's 2030 Climate Action Plan is not a 'qualified' plan as previously discussed, in order to evaluate whether the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

4.2.4 Impacts and Mitigation Measures

Methodology

Construction Emissions

CalEEMod Version 2022.1.1.16 was used to estimate potential project-generated GHG emissions during construction. Construction of the Project would result in GHG emissions primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 4.1.4, are also applicable for the estimation of construction-related GHG emissions. As such, see Section 4.1.4 for a discussion of construction emissions calculation methodology and assumptions.

Operational Emissions

As with Air Quality (refer to Section 4.1 of this EIR), emissions from the operational phase of the Project were estimated using CalEEMod 2022.1.1.16. Operational year 2028 was assumed based on the earliest assumed completion of Project construction. Emissions from the existing buildings were also estimated using CalEEMod to present the net change in GHG emissions. Operational year 2023 was assumed for the existing land uses.

Area Sources

CalEEMod was used to estimate GHG emissions from the Project's area sources, which include operation of gasoline-powered landscape maintenance equipment, which produce minimal GHG emissions. See Section 4.1.4, for a discussion of landscaping equipment emissions calculations. CalEEMod assumes that some landscape equipment would be powered by gasoline. Menlo Park Municipal Code Chapter 8.05 prohibits the use of most gas-powered equipment, effective 2024, and prohibits the use of gas-powered

lawn mowers starting in 2029. Thus, the estimated emissions from landscape equipment presented in this analysis represent a worst-case condition because the modeling does not account for the reductions that would result from compliance with Municipal Code Chapter 8.05.

Energy Sources

The estimation of operational energy emissions for both the Project and the existing land uses were based on CalEEMod land use defaults and total area (i.e., square footage) of the Project's land use.

In CalEEMod 2022.1, the default energy use for nonresidential land uses is based on 2019 consumption estimates from the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast (Commercial Forecast). The Commercial Forecast dataset derives energy intensities of different end use categories for different land use subtypes for electricity demand forecast zones (EDFZ) throughout the state. However, the energy use estimates are based on existing buildings and residences and are not representative of those constructed in compliance with energy efficiency requirements of the latest Title 24 Building Energy Efficiency Standards (e.g., the average residence surveyed in the RASS was constructed in 1974). Therefore, per Appendix D, Technical Source Documentation for Emissions Calculations, of the CalEEMod Version 2022.1 User Guide, the default energy consumption estimates provided in CalEEMod based on the Commercial Forecast "are very conservative, overestimating expected energy use compared to what would be expected for new buildings subject to the latest Energy Code with more stringent energy efficiency measures" (CAPCOA 2022). Buildout of the Project would be required to comply with the 2022 Title 24 Standards at a minimum.

CalEEMod default energy intensity factors (CO₂, CH₄, and N₂O mass emissions per kilowatt-hour) for Peninsula Clean Energy, which is one of California's Community Choice Aggregation organizations and serves San Mateo County, is based on 100% RPS by 2025. The CO₂ emissions intensity factor for utility energy use was adjusted based on Peninsula Clean Energy's *Our Path to 24/7 Renewable Energy by 2025* report in which the delivered electricity had a GHG emissions intensity of 12 pounds CO₂e per megawatt-hour (MWh) (Peninsula Clean Energy 2021).

A summary of key modeling assumptions for each operational run is provided below:

- **Existing Scenario.** Default CalEEMod values were applied.
- **Proposed Project.** Default CalEEMod values for natural gas and electricity demand were updated based on information from the Project applicant. The Project would have a natural gas demand of approximately 5,611,640 thousand British thermal units (kBtu) per year. Furthermore, the Project would have an electricity demand of approximately 2,987,950 kilowatts (kW).

Mobile Sources

All details for criteria air pollutants discussed in Section 4.1.4 are also applicable for the estimation of operational mobile source GHG emissions.

A summary of key modeling assumptions for each operational run is provided below (see Section 4.1.4 for a discussion of the mobile source input adjustments):

- **Existing Scenario.** Year 2023 and values from the transportation assessment for the existing buildings were assumed.

- **Proposed Project.** Year 2028 and Project-specific values from the transportation assessment were assumed. Project assumptions include implementation of TDM plan measures with 35% trip reduction as mandated by the San Mateo County Congestion Management Program (CMP) (see further explanation on page 4.6-11 of Section 4.6, Transportation).

Solid Waste

Land uses, including the Project and the existing scenario, generate solid waste and therefore result in CO₂e emissions associated with landfill off-gassing.

A summary of key modeling assumptions for each operational run is provided below:

- **Existing Scenario.** Default CalEEMod values were applied.
- **Proposed Project.** Default CalEEMod values were applied.

No diversion of solid waste was assumed for the Project or the existing scenario; however, this is a conservative assumption because the Menlo Park Municipal Code requires the Project to implement a zero-waste management plan, AB 341 established a statewide goal of 75% diversion by 2020, and both the state and the City continue to strive to reduce or divert landfill material. Calculation of comparative diversion levels for the Project and the existing scenario would not substantially affect the GHG emissions projections presented herein.

Water and Wastewater

Supply, conveyance, treatment, and distribution of water for the Project require the use of electricity, which would result in associated indirect GHG emissions. Similarly, wastewater generated by the Project and existing land uses requires the use of electricity for conveyance and treatment, along with GHG emissions generated during wastewater treatment.

As a sustainability feature, the Project will be dual plumbed for use of recycled water when it becomes available and landscaping will rely on low-water use native plants. Reduced water consumption and the use of recycled water would slightly decrease GHG emissions in the future. A summary of key modeling assumptions for each operational run is provided below:

- **Existing Scenario.** Default CalEEMod values were applied for water consumption (indoor and outdoor) and wastewater treatment.
- **Proposed Project.** Default CalEEMod values were updated based on the provided water demand of approximately 20,245 gallons per day (gpd).

Project Impacts

Impact 4.2-1 Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

As stated in Section 4.2.3, the significance determination for GHGs is based on Project consistency with BAAD's Option A threshold. The analysis presented in this Impact follows the BAAD Thresholds description of the approach to determining whether a project's GHG contribution would be cumulatively considerable.

Specifically, this analysis evaluates whether the Proposed Project would be “designed and built to ensure that it will be consistent with the goal of carbon neutrality by 2045,” which is the state’s current “articulation of what will be required to achieve long-term climate stabilization at a sustainable level,” as defined in EO B-55-18. The BAAD Thresholds conclude “if a land use project incorporates all of the design elements necessary for it to be carbon neutral by 2045, then it will contribute its portion of what is needed to achieve the state’s climate goals and will help to solve the cumulative problem. It can therefore be found to make a less-than-cumulatively-considerable climate impact” (BAAQMD 2022).

In addition, the Proposed Project’s GHG emissions have been quantified below for informational purposes.

Construction Emissions

Construction of the Project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, vendor trucks, and worker vehicles. A detailed depiction of the construction schedule—including information regarding phasing, equipment utilized during each phase, trucks, and worker vehicles—is included in Appendix I. The estimated Project-generated GHG emissions from construction activities are shown in Table 4.2-4.

BAAD explains that a construction phase GHG emission threshold was not adopted because construction GHG emissions “represent a very small portion of a project’s lifetime GHG emissions” (BAAQMD 2022). The Draft Environmental Analysis prepared in support of the Final 2022 Scoping Plan, however, states that “Depending on project size, the generation of construction emissions are inherently short-term when compared to operational emissions which continue to emit until a project or facility has been decommissioned. Nevertheless, GHGs typically have a long atmospheric lifespan. Therefore, construction emissions must be considered in the overall context of a project” (CARB 2022). Therefore, Table 4.2-4 amortizes total construction emissions over an assumed 30-year Project life, and the result (26.74 CO₂e metric tons per year) is added to annual operational emissions in Table 4.2-5 below.

Table 4.2-4. Estimated Annual Construction Greenhouse Gas Emissions

	CO ₂	CH ₄	N ₂ O	R	CO ₂ e
Year	Metric Tons per Year				
2024	184.05	0.01	0.01	0.04	186.31
2025	266.83	0.01	0.01	0.06	269.17
2026 ^b	240.87	0.01	0.01	0.05	243.34
2027	102.57	<0.01	<0.01	0.02	103.48
Total ^a					802.29
Amortized over 30 years					26.74

Source: Appendix I.

Notes: CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; R= refrigerant; CO₂e = carbon dioxide equivalent; <0.01 = value less than reported 0.01.

^a Total emissions may not sum due to rounding.

^b Emission calculations assume Phase 2 would be built immediately after Phase 1, even though current tenant leases indicate construction actually may not start until 2034. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

As shown in Table 4.2-4, the estimated total GHG emissions during construction would be approximately 802 MT CO₂e over the construction period. Estimated Project-generated construction emissions amortized over 30 years would be approximately 27 MT CO₂e per year. As with Project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the Project would be short term in nature, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions. Because there is no separate GHG threshold for construction, the amortized construction emissions are included with the Project's operational emissions in Table 4.2-5.

As noted above, consideration of the consistency of Project construction emissions with statewide GHG emission reduction goals, the CARB Scoping Plan, BAAD Guidance, and the City's Climate Action Plan is approached qualitatively. These statewide, regional, and local planning documents and regulations do not contain specific mandates that are directly applicable to reduction of GHG emissions during Project construction. Instead, they recommend use of best management practices to minimize construction GHG emissions. These recommendations are not requirements; however, and not all recommendations or examples of best management practices will apply to and be feasible to implement for every construction project. Specifically, Appendix B to the Scoping Plan notes "[t]his appendix should be viewed as a general reference document. It should not be interpreted as official guidance or as dictating requirements" to regulate GHGs emissions for local projects.

Construction activities associated with the Project would be consistent with these planning documents and regulations as follows:

- Landfill waste would be reduced, consistent with the BAAD Guidelines and CARB Scoping Plan through compliance with Menlo Park Municipal Code Chapter 12.48, which establishes landfill diversion requirements for solid waste generated during demolition and construction,
- Fuel used in construction equipment would comply with statewide low-carbon fuel standards.
- Construction crews would be required to shut equipment off when not in use and/or reduce the maximum idling time to 5 minutes as required by the California Airborne Toxics Control Measure and MM 4.1a.
- All 200-horsepower or greater diesel-powered equipment would be powered with CARB-certified Tier 4 Final engines per MM 4.1b.

Estimated Operational Emissions

Operation of the Project would generate GHG emissions through motor vehicle trips to and from the Project site, landscape maintenance equipment operation, energy use (natural gas and generation of electricity consumed by the Project), natural gas usage, diesel-fuel emergency generator maintenance and testing, solid waste disposal, and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described at the beginning of Section 4.2.4, Impacts and Mitigation Measures, under the 'Methodology' heading.

For informational purposes, the estimated operational Project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 4.2-5.

Table 4.2-5. Estimated Annual Operational Greenhouse Gas Emissions

Source	CO ₂	CH ₄	N ₂ O	R	CO ₂ e
	Metric Tons per Year				
Existing Scenario ^a					
Mobile	479.51	0.02	0.02	0.88	486.08
Area	1.32	<0.01	<0.01	-	1.33
Energy	170.80	0.02	<0.01	-	172.10
Water supply and wastewater	26.54	0.94	0.02	-	56.89
Solid waste	5.25	0.52	0.00	-	18.35
Refrigerants	-	-	-	0.13	0.13
Total					734.87
Proposed Project ^a					
Mobile	1,682.31	0.06	0.06	1.81	1,702.33
Area	10.89	<0.01	<0.01	-	10.93
Energy	316.16	0.08	0.01	-	320.08
Water supply and wastewater	1.86	0.17	<0.01	-	7.38
Solid waste	1.55	0.15	0	-	5.42
Refrigerants	-	-	-	0.97	0.97
Emergency generators	153.20	0.01	<0.01	0.00	153.71
Subtotal	2,165.93	0.47	0.07	2.78	2,200.78
Amortized construction emissions					26.74
Total ^b					2,227.52
Net Change					
Net Change (Project – Existing Land Uses)					1,492.65

Source: Appendix I

Notes: GHG = greenhouse gas; CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; R= refrigerant; CO₂e = carbon dioxide equivalent; <0.01 = value less than reported 0.01.

^a Existing Scenario emissions reflects operational year 2023 and Project emissions reflect operational year 2028.

^b Totals may not sum due to rounding.

As shown in Table 4.2-5, estimated annual Project-generated GHG emissions would be approximately 2,201 MT CO₂e per year as a result of Project operations only. After summing the amortized Project construction emissions, total GHGs generated by the Project would be approximately 2,228 MT CO₂e per year. Emissions from the existing land uses at the Project site are estimated to be approximately 735 MT CO₂e per year. As such, implementation of the Project would result in net annual GHG emissions of 1,493 MT CO₂e per year (operations plus amortized construction).

BAAD Option A Threshold Analysis

As stated above, significance of the Project in the category of GHG emissions is determined based on BAAD Option A threshold (BAAQMD 2022). Analysis of the Project against BAAD Option A threshold is in the Building Elements and Transportation Elements subsections below.

As discussed in Section 4.2.3, the BAAD Option A threshold includes building and transportation design elements that all projects are required to meet to have a less than cumulatively considerable contribution to climate change. Specifically, the building design requirements include that a project (a) will not include natural gas appliances and natural gas plumbing and (b) will not use energy in a wasteful, inefficient, or unnecessary manner. Transportation design elements require a project to (a) comply with CALGreen EV charging requirements and, (b) for office projects, achieve a 15% reduction in project-generated per employee VMT below the existing VMT per employee or meet a locally adopted SB 743 VMT target.

Building Elements

The Project would not be consistent with BAAD's first criteria because the Project would include use of natural gas for laboratory space conditioning. The Project does satisfy the second criteria (regarding energy use). It would be built in accordance with the Building Energy Efficiency Standards (Title 24) in effect at the time building permits are issued, which include robust requirements for energy efficiency; thus, the buildings would be more energy efficient than the existing buildings. The provisions of the CALGreen code apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure. Additionally, the Project would implement CALGreen Non Residential Voluntary Measures Tier 2, which include requirements regarding short-term and long-term bicycle parking, EV charging stations, water efficient fixtures and landscaping, heating and cooling systems, light pollution, and grading and drainage. Furthermore, the energy demand calculations do not take into account all of the Project's energy-saving design features that would result in exceedances of the code requirements. Because the project would use natural gas, the Project would be required by Municipal Code Chapter 12.16 to purchase offsets for the natural gas and to procure renewable electric power equal to 100% of annual energy demand. As such, the Project's electricity use would be more efficient than what is required and would likely be lower than the calculations presented above.

Transportation Elements

The Project would satisfy both of BAAD's transportation criteria. Due to the urban setting of the Project site, which is served by passenger rail and bus services, it is expected some employees and visitors may use transit or non-vehicular modes of transportation to travel to and from the Project site. The Caltrain commuter rail system serves the Menlo Park Station, located at 1120 Merrill Street, and the Palo Alto Station, located at 95 University Avenue, both are approximately 3 miles south of the Project site. The Project area is also served by the Menlo Park Shuttle Service and the SamTrans bus service, which collectively provide local and regional public transit within the Project area. As discussed in detail in Section 4.6, Transportation, the Project would implement a Transportation Demand Management Plan (TDM) that is expected to achieve a 36% reduction of daily and peak hour vehicle trips. The TDM would also reduce the Project's VMT. Therefore, the Project would meet BAAD's target of achieving a VMT that is at least 15% below the existing VMT per employee. In addition, the Project would include EV charging stations and additional parking spaces that would be "EV Ready," meaning conduit would be installed below the parking space surface to support future installation of additional EV charging stations, consistent with requirements under CALGreen and the Menlo Park Municipal Code.

However, as discussed above, even with adherence to the Menlo Park Municipal Code, Impact 4.2-1 is deemed **significant and unavoidable** because the Project would install natural gas appliances and

plumbing, and the BAAD's Justification Report states that projects that include natural gas appliances or plumbing are not compliant with the BAAD Option A threshold.

Mitigation Measures

There are no feasible MMs to reduce this impact to a less-than-significant level because achieving compliance with the BAAD Option A threshold would require that no natural gas be used as part of the Project. The Project sponsor has submitted a separate feasibility analysis for each Project phase demonstrating that the use of natural gas is essential for the R&D laboratory functions intended for the Proposed Project and all electric is infeasible for this R&D Project; both of the feasibility analyses were validated by the City and a third-party peer reviewer (Appendix I). The analyses document that R&D buildings require higher levels of system reliability to maintain the viability of science functions taking place within the laboratory setting compared to office and residential buildings. Such buildings have relatively light energy demand loads compared to laboratory buildings and can use air recirculation to further reduce those loads. In those situations, an all-electric design can be implemented to reduce carbon emissions and increase the building's energy performance. In contrast, buildings that include laboratory space (as in the Proposed Project) must be designed with tight tolerance of space conditioning (e.g., air temperature and humidity). Further, laboratory spaces require 100% outside air circulation. The introduction of variable outside air circulation conditions requires tighter control from the mechanical equipment for laboratory environments. Unlike occupant comfort, which is the main design function of office and residential uses, compromise of space conditioning in laboratory settings can lead to failure of the building occupant's science experimentation and/or production activities.

Although energy-related emissions would be offset through compliance with the Municipal Code, there is no feasible mitigation to avoid the need for including natural gas appliances and plumbing in the Proposed Project. Furthermore, as noted in Section 5.4, Alternatives Considered but Rejected, a no-fossil fuels alternative was determined to be infeasible; therefore, there are no alternatives that would eliminate inclusion of natural gas appliances and plumbing.

Impact 4.2-2 Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project Consistency with the City of Menlo Park CAP

As discussed in Section 4.2.2, the City of Menlo Park 2030 CAP identifies a variety of actions that will help the City make progress towards achieving the CAP goals with respect to conservation of energy, reducing GHG emissions associated with transportation, and adapting to sea level rise. The six actions detailed below were included in the adopted 2030 CAP because they offered the most benefit for reductions in GHG emissions per cost. The list of actions presented within the 2030 CAP are outlined in Table 4.2-6, along with analysis of the Project's consistency with them. (Note that only three of the six action items are applicable to the Project.)

Table 4.2-6. Project Consistency with the City of Menlo Park CAP

CAP Actions	Project Consistency
Action 1: Explore policy/program options to convert 95% of existing buildings to all-electric by 2030.	<i>Not Applicable.</i> The Project consists of new commercial development and would be built consistent with the Menlo Park Municipal Code.
Action 2: Announce and promote goals of 1) increasing the purchase of all new vehicles to be electric by 2025 and 2) reducing gasoline sales each year by 10%, based on the total reported in 2018. Track progress on both goals publicly on an annual basis.	<i>Consistent.</i> The Project would provide EV charging in compliance with Menlo Park Municipal Code Sections 12.18.060-070 and CALGreen requirements.
Action 3: Expand access to EV charging for multifamily and commercial properties.	<i>Consistent.</i> The Project would provide EV charging in compliance with Menlo Park Municipal Code Sections 12.18.060-070 and CALGreen requirements.
Action 4: Reduce VMT by 25% or an amount recommended by the Complete Streets Commission.	<p><i>Consistent.</i> The 25% VMT reduction goal is intended to be applied citywide, rather than as a mandate for each individual project to achieve a 25% reduction in VMT. This action is described in the CAP as being implemented with a two-pronged approach that includes encouraging higher density development, especially housing, near transit and making the city easier to navigate without a car by implementing the Transportation Master Plan.</p> <p>The Project proposes new research and development facilities, as permitted by the site's zoning designation. As discussed in Section 4.6, transit services are available proximate to and within walking distance of the Project site. The Project site is served by passenger rail and bus services. The Caltrain commuter rail system serves the Menlo Park Station, located at 1120 Merrill Street, and the Palo Alto Station, located at 95 University Avenue, both are approximately 3 miles south of the Project site. The Project also incorporates pedestrian and bicycle facilities to support non-motor vehicle mobility. The Project is also located near residential uses, which promotes the ability of workers to live near their jobs and reduce commute miles.</p> <p>Also as discussed in Section 4.6, the Project would implement a TDM Plan that would reduce the Project-specific VMT per capita by 36% compared to the existing VMT per capita, which is greater than the 25% target.</p>
Action 5: Eliminate the use of fossil fuels from municipal operations.	<i>Not Applicable.</i> Applies to City facilities. However, until all municipal operations have eliminated use of fossil fuels, the Project's water conservation measures would contribute to reduced fossil fuel consumption associated with operation of Menlo Park Municipal Water facilities and wastewater treatment.
Action 6: Develop a climate adaptation plan to protect the community from sea level rise and flooding.	<i>Not Applicable.</i> This Action describes a City initiative. However, as part of this Action, the City has adopted a requirement that all new construction in areas subject to sea level rise must be raised 2 feet above the 5-foot FEMA

Table 4.2-6. Project Consistency with the City of Menlo Park CAP

CAP Actions	Project Consistency
	floodplain. The Proposed Project design is consistent with this requirement.

Source: City of Menlo Park 2020.

Project Consistency with Plan Bay Area 2050

MTC and ABAG's Plan Bay Area 2050 is a regional growth-management strategic plan that focuses on reducing GHG emissions associated with transportation, pursuant to SB 375. Plan Bay Area 2050 incorporates local land use projections and circulation networks as identified in city and county general plans and presents 35 strategies across the elements of housing, the economy, transportation and the environment. These strategies identify public policies and investments that can be implemented in the Bay Area at the city, county, regional, and/or state level over the next 30 years.

Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS.

The Project's consistency with Plan Bay Area 2050 is demonstrated via the Project's land use characteristics and features that would reduce vehicular trips and VMT. As discussed in Section 4.6, the Project site is served by passenger rail and bus services. The Caltrain commuter rail system serves the Menlo Park Station, located at 1120 Merrill Street, and the Palo Alto Station, located at 95 University Avenue, both are approximately 3 miles south of the Project site. In addition, implementation of the Project's proposed TDM Plan would reduce Project VMT by 36% by using the C/CAG TDM Score Sheet for large, transit proximate, non-residential uses such as the Project. Therefore, the Project would not exceed the regional (City) VMT per service population estimates and the Project is anticipated to be consistent with Plan Bay Area 2050 strategies.

Project Consistency with CARB's Scoping Plan

The Scoping Plan (approved by CARB in 2008 and updated in 2014, 2017, and 2022) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects or cities/counties (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions), nor is it intended to be used for project-level evaluations. Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions, and new regulations adopted by the state agencies outlined in the Scoping Plan result in reduced GHG emissions at the local level. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down.

The Project would be required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of

AB 32 and SB 32, and in the future per AB 1279. For example, the Project would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time that building permits are issued. Furthermore, compliance with the City's CAP and General Plan goals, policies, and programs related to GHG would help reduce GHG emissions and therefore help achieve GHG reduction goals. Therefore, implementation of the Project would not obstruct implementation of the CARB Scoping Plan.

Project Potential to Conflict with SB 32, AB 1279, and EO S-3-05

EO S-3-05 identified a goal of reducing GHG emissions to 80% below 1990 levels by 2050. SB 32 establishes a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. AB 1279 establishes a policy of the state to achieve net zero GHG emissions no later than 2045 and for statewide anthropogenic GHG emissions to be reduced to at least 85% below 1990 levels by 2045.

Each Scoping Plan builds upon the successful framework established by the initial Scoping Plan and subsequent updates, while also identifying new, technologically feasible, and cost-effective strategies to ensure that California meets increasingly stringent GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Scoping Plan updates have continued to express optimism in meeting future year targets of 2050 and 2030, as evaluated in the 2014 and 2017 Scoping Plans (respectively), and most recently, the 2045 goal addressed in the 2022 Scoping Plan under EO B-55-18, which AB 1279 codified and expanded on.

While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasted in the 2014 Scoping Plan that compliance with that Scoping Plan would put the state on a trajectory of meeting the long-term 2050 GHG goals, although the specific path to compliance was unknown at the time (CARB 2014). The 2017 Scoping Plan outlined a strategy to achieve the 2030 GHG reduction target. The proposed scenario in the 2022 Scoping Plan lays out a path not just to carbon neutrality by 2045, but also to the 2030 GHG emissions reduction target (CARB 2022). The modeling indicates that, if the plan described in the proposed scenario is fully implemented, and done so on schedule, the state is on track to reduce its emissions to 260 MMT CO₂e by 2030 (CARB 2022).

The Project would not impede the attainment of the GHG reduction goals for 2030, 2045, or 2050 identified in SB 32, AB 1279, and EO S-3-05, respectively. In addition, the Project would bring employment opportunities to a site that is well served by passenger rail and bus services. As such, the Project's generation of GHG emissions would not interfere with the implementation of GHG reduction goals for 2030, 2045, and 2050.

Conclusion

The Project is consistent with the current Scoping Plan which promotes growth while achieving greater energy efficiency. The Project also would be consistent with the Menlo Park 2030 CAP, Plan Bay Area 2050, SB 32, and EO S-3-05 by being consistent with VMT reduction strategies and policies, increasing the use of alternative fueled vehicles, and implementing energy efficiency strategies. However, as discussed previously, even with adherence to the Menlo Park Municipal Code, Impact 4.2-1 was deemed a significant impact because the Project would install natural gas appliances and plumbing, and the BAAD's Justification

Report states that projects that include natural gas appliances or plumbing are not compliant with the BAAD Option A threshold. As such, the Project would result in a **significant and unavoidable** impact related to the potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Mitigation Measures

As with Impact 4.2-1, there are no feasible MMs to reduce this impact to a less-than-significant level because achieving compliance with the BAAD Option A threshold would require that no natural gas appliances or plumbing be included in the Project and there is no feasible alternative to the use of natural gas. The Project sponsor has submitted separate feasibility analyses for each Project phase demonstrating that the use of natural gas is essential for the R&D laboratory space functions intended for the Proposed Project and all electric is infeasible for this R&D Project; both analyses were validated by the City and a third-party peer reviewer (Appendix I).

Cumulative Impacts

Impact 4.2-3 Would the Project result in cumulatively considerable impacts with regard to greenhouse gas emissions?

As previously discussed in Section 4.2.1, Environmental Setting, GHG emissions inherently contribute to cumulative impacts. Climate change is a global problem, and GHG impacts are inherently cumulative. This is because GHGs contribute to the global phenomenon that is climate change, regardless of where they are emitted. Climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative, and the analysis above is inclusive of cumulative impacts. As shown in Section 4.2.4, the Project would not comply with the BAAD Thresholds because it would include natural gas appliances and plumbing. Therefore, the Proposed Project's GHG emissions would make a cumulatively considerable contribution to global climate change, and the impact would be **significant and unavoidable**.

Mitigation Measures

As with Impact 4.2-1, there are no feasible MMs to reduce this impact to a less-than-significant level because achieving compliance with the BAAD Option A threshold would require that no natural gas appliances or plumbing be included in the Project and there is no feasible alternative to the use of natural gas. The Project sponsor has submitted separate feasibility analyses for each Project phase demonstrating that the use of natural gas is essential for the laboratory space functions intended for the Proposed Project and all electric is infeasible for this R&D Project; both analyses were validated by the City and a third-party peer reviewer (Appendix I).

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4.3 Hazards and Hazardous Materials

The following analysis evaluates impacts related to potential exposure to hazards and hazardous materials associated with implementation of the proposed 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project).

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR), in June 2023. The Initial Study for this EIR, which was made available for public review during the public review period for the NOP, found that the Project's impacts associated with hazards and hazardous materials would remain less than significant with implementation of mitigation measures (MMs) and existing regulations and therefore the NOP stated that this topic would not be addressed in the Draft EIR. However, public comments received in response to the NOP raised concerns about possible hazardous materials impacts relating to any accidental release of hazardous materials during Project operation and concerns regarding risks to human health and the environment associated with the proposed life sciences and R&D land uses. As described in the Initial Study, the operation of this Project would be consistent with the land use designation assigned to the Project site under the ConnectMenlo General Plan Update. Accordingly, these questions did not raise new information regarding a significant impact that was not available at the time of certification of the ConnectMenlo General Plan Update EIR. The ConnectMenlo EIR evaluated the potential hazardous materials impacts associated with development under the Life Sciences land use designation. This included consideration of use of hazardous materials in non-residential development projects, including life sciences and R&D projects in the Life Sciences District. The ConnectMenlo EIR notes that use of hazardous materials is regulated and monitored by federal, State, regional and local agencies, including the San Mateo County Environmental Health Division (SMCEHD) and Menlo Park Fire Protection District. Thus, these issues were fully evaluated in the ConnectMenlo General Plan Update EIR. However, CEQA permits consideration of impacts beyond the requirements of the law.¹ Therefore, this section has been included in this Draft EIR to provide full consideration of the NOP comments regarding the possible release of hazardous materials from the Proposed Project. Specifically, this section addresses three of the thresholds of significance identified in the Initial Study Checklist by considering whether the Project could create a hazard to the public or the environment due to transport, use, disposal, accidental release, and/or emissions of hazardous materials. In addition, health risks associated with air pollution are addressed in Section 4.2, Air Quality. The NOP and the comments received in response to it are provided in Appendices G1 and G3 of this EIR.

The primary sources reviewed to prepare this section include the ConnectMenlo General Plan Update (City of Menlo Park 2016a), the ConnectMenlo EIR (City of Menlo Park 2016b), and the combined Phase I and II Environmental Site Assessment (ESA) that was prepared for the Project site by Farallon Consulting and is included as Appendix D to the Initial Study, which was made available for public review at the time the Notice of Preparation for this EIR was circulated and continues to be available for review on the City's webpage for this Project, at <https://www.menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1005-O'Brien-Dr-and-1320-Willow-Rd>. The ESA found that there are no recognized environmental conditions at the Project site that would affect the Project and concluded that the Project site is suitable for the proposed land uses (Appendix D).

¹ *Rominger v. County of Colusa* (2014) 229 Cal.App.4th 690, 700.

4.3.1 Environmental Setting

Site Location

As shown in Figure 3-2, the 4.2-acre Project site (Assessor's Parcel Numbers [APNs] 055-421-160, 055-421-050, and 055-421-060) is located at 1005 O'Brien Drive and 1320 Willow Road and the site is bounded on the north by right-of-way for the Hetch-Hetchy water line and the Mid-Peninsula High School, Willow Road to the west, O'Brien Drive to the south and two adjoining properties on the east (1035 O'Brien Drive and 10 Kelly Court). Further, the site is located north of United States Route (U.S. Route) 101, south of Bayfront Expressway (State Route [SR] 84), and west of University Avenue (SR 109).

Approximately 1,230 square feet in the southwest corner of APN 055-421-190, which currently contains a portion of the surface parking lot for 1035 O'Brien Drive, would be added to the Project site while an equal area in the northeast corner of APN 055-421-060 would be added to the 1035 O'Brien Drive parcel, as shown in Figure 3-3.

Soils

The Project site is located in an urbanized area that primarily supports dense commercial and industrial development. The Project site is relatively flat, with elevations ranging between 11 and 13 feet above mean sea level. The Natural Resources Conservation Service has mapped two soil units on the Project site: urban land-orthents reclaimed complex, 0–2% slopes, and urban land. The orthents soils are typically very shallow; they are young soils that lack horizon development due to either steep slopes or parent materials that lack weatherable minerals. The urban land soil unit is associated with areas that lack native soils and where more than 85 percent of the surface is covered by asphalt, concrete, buildings, and other structures. The soil types at the Project site are not native or hydric, resulting in a high runoff rate (Appendix A1).

Proximity to Schools

The school nearest the Project site is the private Mid-Peninsula High School, with its classroom building located an average of approximately 100 feet north of the Project site (with its closest point approximately 85 feet away). The High School uses the Hetch Hetchy right-of-way immediately adjacent to the Project site for parking, open space and athletic fields. Public schools within the Project vicinity include Belle Haven elementary school (0.54 miles west of the Project site), Costaño elementary school (0.72 miles east), Ceasar Chavez Ravenswood Middle School (0.37 miles east), and KIPP Valiant Community Preparatory School (a public charter school, 0.96 miles south). The two public high schools nearest to the site are TIDE Academy, located at 150 Jefferson Drive, approximately 1.3 miles west of the Project site, and Menlo-Atherton High School, located at 555 Middlefield Road in Atherton, located approximately 1.65 miles southwest of the Project site. Other schools in the vicinity include Open Mind School (a private kindergarten through 12th grade campus located approximately 0.23 miles east of the Project site, Little Oak Preschool (private) located approximately 0.63 mile southwest of the Project site, Whole Kid School (a childcare and daycare facility) approximately 1.55 miles southwest of the Project site, and the San Francisco 49ers Academy (a nonprofit organization that offers programs at local schools) located 3.67 miles southeast of the Project site.

Existing Site Conditions

Phase I and II Environmental Site Assessments

As noted previously, a combined Phase I and II ESA was prepared for the Project site by Farallon Consulting and is provided as Appendix D to the Initial Study. The ESA found that there are no recognized environmental conditions at the Project site that would affect the Project and concluded that the Project site is suitable for the proposed land uses (Appendix D).

As indicated in the ESA, the Project site appears to have been used for agricultural purposes from approximately 1930 through 1948. The existing onsite buildings fronting on O'Brien Drive were constructed by 1958 while the building on Willow Road was constructed by 1968 and expanded by 1974. Given the ages of the buildings, asbestos-containing materials (ACM) and lead based paint (LBP) were likely to have been used in their construction (Appendix D). As such, the ESA recommends that the demolition and development phase of the Project be informed by a Site Mitigation Plan.

The current tenants and some past tenants of the Project site were identified as handlers and/or generators of hazardous materials or waste. At the time of the site reconnaissance, Farallon observed "minor amounts of hazardous materials, including janitorial cleaning supplies, alcohols and acids, and maintenance-related products. The materials were observed to be properly labeled and stored in designated areas of the Site buildings" and no evidence of releases was observed on or around the containers (Appendix D). Farallon's review of records for the Project site found that only minor violations of hazardous materials storage regulations occurred, and there were no listings for the Project site in the California State Water Resources Control Board (SWRCB) online GeoTracker database or the California Department of Toxic Substances Control (DTSC) online EnviroStor database. Thus, there is no evidence that a substantial spill or release of hazardous materials has occurred on the Project site.

The property adjacent to the southwest corner of the Project site, at 1300 Willow Road, supported a gasoline service station from at least 1957 through at least 1967. To further assess the potential migration of hazardous substances to the Project site from the former gasoline service station, Farallon collected four groundwater samples on the Project site adjacent to 1300 Willow Road. Analysis of these samples indicated that the samples contained "low concentrations of total petroleum hydrocarbons and benzene, which did not exceed the applicable Water Board Environmental Screening Levels." The ESA concluded that the potential migration of hazardous substances to the Project site due to the prior gasoline service station represents a de minimis environmental condition and does not represent any risk of vapor intrusion at the site (Appendix D).

The GeoTracker and EnviroStor databases identify other releases of hazardous materials at several other facilities proximate to the Project site. However, the ESA concludes that based on these sites' current regulatory status, topographic location relative to the Project site, and/or relative distance from the Project site, none of these facilities represent a recognized environmental condition that could affect the Project (Appendix D).

Cortese List

In California, regulatory databases listing hazardous materials sites provided by numerous federal, state, and local agencies are consolidated in the “Cortese List” pursuant to Government Code Section 65962.5. Cortese List sites can be queried using the DTSC EnviroStor database and the SWRCB GeoTracker database. These databases were reviewed during preparation of the ESA; they were queried again in 2022 during preparation of the Initial Study and again in 2024 in preparation of this EIR to ensure no new information had been developed since preparation of the ESA. The SWRCB GeoTracker website provides data relating to leaking underground storage tanks and other types of soil and groundwater contamination, along with associated cleanup activities. GeoTracker identifies 18 hazardous materials sites within 0.5 miles of the Project site, all of which have previously undergone site investigation, remediation, and closure. No new cases or changes in status of these 18 sites were identified in the 2024 database search (SWRCB 2022 and 2024a). As such, no active hazardous materials sites were identified within the Project vicinity. GeoTracker identifies the western portion of the Project site, at 1320 Willow Road, as being a “non-case information” site, with a site record number of T10000021319. This case was opened in August 2021 in relation to soil borings done as part of the Phase I and II ESA prepared for the Project site. No clean up actions were required and review for the site was listed as complete as of February 2024 (SWRCB 2024b).

The DTSC EnviroStor website provides data related to hazardous materials spills and clean ups. EnviroStor identifies two voluntary cleanup sites within 0.5 miles of the Project site; the next nearest cleanup sites are approximately one mile from the Project (DTSC 2024a). Meta’s Menlo Park West Campus located at 1 Facebook Way (previously 312-314 Constitution Drive), approximately 2,000 feet northwest of the Project site, formerly operated as a facility that manufactured high technology plastic and electrical insulation products and engaged in management of hazardous waste pursuant to a hazardous waste facility permit. A Remedial Action Plan for the West Campus was implemented in 2012, and the site continues to undergo remedial maintenance, including groundwater monitoring. The most recent groundwater monitoring report available on EnviroStor reports on monitoring conducted in February 2022. The monitoring data showed no detectable presence of polychlorinated biphenyls or total petroleum hydrocarbons while volatile organic compounds were detected in six of the eight monitoring wells. An additional groundwater monitoring well installation workplan was approved in October 2022 (DTSC 2022a and 2024b). The Willow Office Park, located approximately 900 feet northeast of the Project site, was formerly used for helicopter testing and manufacturing and production of reconnaissance satellites. A voluntary cleanup agreement was initiated in 2018 to address possible contamination at the site. In December 2022, DTSC approved a Removal Action Workplan to excavate areas of contamination within the site and soils management plans were submitted to DTSC in January 2023. As of the September 2023 update to the EnviroStor record for this site, the Removal Action Workplan had not yet been implemented. A Supplemental Site Investigation report is expected to be submitted to DTSC by the Willow Village Project sponsor in 2024 and a Removal Action Completion Report is expected to be submitted to DTSC in 2025 (DTSC 2022b, 2023, and 2024b).

Airport Hazards

Palo Alto Airport, a general aviation field that is owned and operated by the City of Palo Alto, is approximately four miles southeast of the Project site. The Project site is not located within the Palo Alto Airport’s Airport Influence Area nor within the noise contours of the airport. Further, the Project site is also not located within any airport safety zones (Santa Clara County ALUC 2020). No airports or private airstrips are located within

two miles of the Project site. The next nearest airports are the San Carlos Airport, located more than two miles to the north, and Moffet Field, located more than two miles to the south (City of Menlo Park 2016b).

Menlo Park Emergency Operations Plan

The City of Menlo Park 2014 Emergency Operations Plan describes how the City will manage and coordinate resources and personnel responding to a range of “extraordinary” emergency situations including natural disasters and technological incidents. The operational concepts reflected in the Emergency Operations Plan focus on potential large-scale disasters which can generate unique situations requiring expanded emergency responses. It uses principles from the Federal National Incident Management System, the California Standardized Emergency Management System, and the Incident Command System to ensure a comprehensive and effective strategy for providing a coordinated and efficient response to major emergencies. The Emergency Operations Plan defines emergency response phases and emergency levels; specifies policies and general procedures, including protocols for communication between emergency service providers and for communication with the public; defines and delegates tasks for emergency staff; and provides for coordination of planning efforts (City of Menlo Park 2014).

Fire Hazard

According to the California Department of Forestry and Fire Protection’s (CAL FIRE) Fire and Resource Assessment Program, the Project site is within a Local Responsibility Area (LRA) because it is within the city limits, served by the Menlo Park Fire Protection District, and designated Non-Very High Fire Hazard Severity Zone (FHSZ) (CAL FIRE 2008). Therefore, the risk of wildfire at the Project site is considered very low. Further, the ConnectMenlo General Plan Update indicates that there are no areas designated as moderate, high, or very high FHSZs within the city or the LRA (City of Menlo Park 2016b).

4.3.2 Regulatory Framework

Federal Regulations

Code of Federal Regulations Title 40, Chapter 1

The U.S. Environmental Protection Agency (EPA) was established in 1970 under the Code of Federal Regulations Title 40, Chapter 1. Many of the federal regulations that address hazardous materials require the EPA to develop and enforce regulations that implement environmental laws enacted by Congress. The EPA was established to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. The EPA’s mission is to protect human health and to safeguard the natural environment—air, water, and land—upon which life depends. The EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits, monitoring, and enforcing compliance. Where national standards are not met, the EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

There are several Subchapters within Chapter 1 that identify specific responsibilities of the EPA. In part, these include:

- Subchapter C – Air Programs: This Subchapter establishes EPA’s authority to set ambient air quality standards, requirements for air quality monitoring, air pollution emission standards for motor vehicles, and permitting processes and programs to be implemented at the state and federal levels.
- Subchapter D – Water Programs: This Subchapter designates hazardous substances under the Clean Water Act; determines the reportable quantity for each substance that is designated as hazardous; and establishes quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States
- Subchapter I – Solid Wastes: This Subchapter identifies guidelines for storage and collection of residential, commercial, and institutional solid wastes, requirements for waste management programs, criteria for landfills, and standards for management and disposal of hazardous wastes.
- Subchapter R – Toxic Substances Control Act: This Subchapter defines reporting and recordkeeping requirements for facilities that use or produce toxic substances, including health and safety data reporting, and management of toxic substances.

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle-to-grave” system of regulating hazardous wastes.

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 (42 USC 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. The National Contingency Plan (Title 40, Code of Federal Regulations [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Clean Water Act/Spill Prevention, Control, and Countermeasure Rule

The Clean Water Act (33 USC 1251 et seq., formerly known as the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the United States. As part of the Clean Water Act, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in 40 CFR 112, which is often referred to as the “SPCC rule” because the regulations describe the requirements for facilities to prepare, amend, and implement spill prevention, control, and countermeasure (SPCC) plans. A facility is subject to SPCC regulations if a single

oil storage tank has a capacity greater than 660 gallons, or the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the “navigable waters” of the United States.

Clean Air Act/ National Emissions Standards for Hazardous Air Pollutants

The Clean Air Act requires the EPA to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112 of the Clean Air Act, the EPA established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). Asbestos was one of the first hazardous air pollutants regulated under Section 112, under the Asbestos NESHAP (40 CFR Part 61). The EPA has delegated responsibility for administration of the Asbestos NESHAP in the Project area to the Bay Area Air District (BAAD)².

Occupational Safety and Health Administration Standards

The Occupational Safety and Health Administration’s (OSHA) mission is to ensure the safety and health of U.S. workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff establishes and enforces protective standards and provides technical assistance and consultation programs for employers and employees. OSHA standards are listed in 29 CFR 1910 et seq. They cover a wide range of topics, including working conditions and personal protective equipment; working and walking surfaces including elevated platforms and lifts; fall protection measures; exit routes, emergency planning, medical/first aid provisions, and fire protection; ventilation; noise; and toxic and hazardous materials/substances, including applicable standards that must be met in environments where there is the potential for workplace exposure to bloodborne pathogens.

Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules

The National Institutes of Health (NIH) developed the Guidelines For Research Involving Recombinant Or Synthetic Nucleic Acid Molecules (NIH Guidelines) to establish practices and containment principles that must be implemented by facilities receiving federal funding through the NIH that conduct basic and clinical research involving recombinant and synthetic DNA materials as well as cells, organisms, and viruses containing such molecules. The guidelines were first published in June 1976 and are updated regularly and reviewed by the NIH’s Recombinant DNA Advisory Committee.

The NIH Guidelines establish containment requirements for each of four biosafety levels (BSLs). Biosafety means “the application of safety precautions that reduce a laboratorian’s risk of exposure to a potentially infectious microbe and limit contamination of the work environment and, ultimately, the community” (CDC 2023a). BSL-1 is the lowest level of required containment, while BSL-4 is the highest level of requirements; the BSL for a particular facility is determined based on the risks to public, plant, and animal health associated with the types of microbes and biological agents used and types of research activities conducted at that facility. “The primary risks that determine levels of containment are infectivity, severity of disease,

² The Bay Area Air Quality Management District (BAAQMD) changed its name to the Bay Area Air District (BAAD) in January 2025

transmissibility, and the nature of the work conducted. Origin of the microbe, or the agent in question, and the route of exposure are also important” (CDC 2023a).

The containment controls required for each BSL include measures related to laboratory practices, safety equipment, and a facility’s building standards (such as ventilation and emergency power sources). The four BSL levels are defined as follows:

- BSL-1: for agents not known to cause disease in healthy humans and pose minimal risk.
- BSL-2: for agents that can cause mild to moderate disease in humans and pose moderate risk.
- BSL-3: for agents that can cause serious or potentially lethal disease in humans and pose high risk.
- BSL-4: for agents that can cause life-threatening disease in humans and pose extreme risk (CDC 2023a).

The NIH Guidelines include procedures for conducting risk assessments and identify “special procedures, equipment, and laboratory installations that provide physical barriers that are applied in varying degrees according to the estimated biohazard” (NIH 2019). The guidelines also include additional containment measure practices specific to experiments/research involving plants, and specific to experiments/research involving animals. Facilities that are subject to the NIH Guidelines are required, in part, to establish and implement their own policies and procedures to ensure compliance with the guidelines, establish an Institutional Biosafety Committee, appoint a Biological Safety Officer and individual containment experts in the facility’s areas of research (such as a plant pathogen containment expert or a plant pest containment expert), and ensure that all of these individual and committee members receive appropriate training. The guidelines include detailed descriptions of the roles and responsibilities of these individuals. The guidelines also establish NIH’s authority and responsibility to certify and routinely inspect maximum containment (BSL 4) facilities and to inspect “other recombinant or synthetic nucleic acid molecule facilities as deemed necessary” (NIH 2019).

Although compliance with the NIH Guidelines is only required of institutions that receive federal funding through the NIH, the guidelines are generally followed, as applicable, as standard industry practice (Harris and Lee 2023a).

Biosafety in Microbiological and Biomedical Laboratories

The Centers for Disease Control and Prevention (CDC) provides important information and guidance in its guide called Biosafety in Microbiological and Biomedical Laboratories (BMBL), 6th edition. The BMBL was first published in 1984 and is the foundation for biosafety practice and policy in the United States. The BMBL guidelines are the standards of practice for exposure control for workers and the public in relation to managing biosafety and biosecurity in research operations. The guidelines also address the biohazards and controls for BSLs 1 through 4. The BMBL is updated regularly, in collaboration with a wide range of scientific and safety professionals to address emerging threats and updated research. The guidelines also, “define the work practices, containment, facility design requirements and the program management, oversight and training that define the standard of accepted practice for biosafety,” which includes workplace safety requirements to minimize the risk of exposure to employees, and through employees to the general public, as well as engineering and design controls to minimize leak risk and address proper disposal (Harris and Lee 2023a).

Federal Select Agent Program

Select agents are biological agents and toxins that have the potential to pose a severe threat to public health and safety, animal health and safety, plant health and safety, or to the safety of animal or plant products (CDC 2023b). Although there are risks associated with the use of these materials, they also provide important opportunities to develop scientific information and knowledge that leads to improved detection, prevention, diagnostic, and treatment options for a wide range of dangerous diseases that threaten public, animal, and plant health (CDC 2023c).

The Federal Select Agent Program (FSAP) regulates the possession, use, and transfer of select agents and toxins with the intent of ensuring that potentially lifesaving research involving these materials is done as safely and securely as possible. The FSAP is managed jointly by the CDC and U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS)/Division of Agricultural Select Agents and Toxins. The CDC provides oversight for agents and toxins that cause diseases in people while the APHIS provides oversight for agents and toxins that cause diseases in animals and plants (CDC 2023c).

FSAP oversees organizations that are registered to possess, use or transfer select agents and toxins. These organizations include universities, government laboratories, private and commercial organizations, and more. FSAP makes it possible to safely conduct vital research on agents and toxins that are critical to national security. Under the FSAP, the CDC and APHIS:

- Develop, implement, and enforce the Select Agent Regulations;
- Maintain a national database;
- Inspect entities that possess, use, or transfer select agents;
- Ensure that all individuals who work with these agents undergo a security risk assessment performed by the Federal Bureau of Investigation/Criminal Justice Information Service;
- Develop guidance documents and conduct workshops and webinars to ensure that personnel at regulated facilities understand how to comply with the Select Agent Regulations; and
- Investigate incidents of potential or known non-compliance.

State Regulations

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 California Code of Regulations (CCR) Title 26, 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 CCR 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. It is anticipated waste associated with building demolition would be required to comply with this Act.

Title 8 of the California Code of Regulations

CCR Title 8 regulates workplace safety and health and identifies the California OSHA (Cal/OSHA) as the implementing and oversight agency for these requirements. CCR Title 8 also requires that all site closure activities must be conducted by employees with adequate training per the CAL/OSHA regulations (Harris and Lee 2023a).

Section 1532.1 Lead in Construction Standard

California OSHA's Lead in Construction Standard regulations address the following areas: permissible exposure limits; exposure assessment; compliance methods; respiratory protection; protective clothing and equipment; housekeeping; medical surveillance; medical removal protection; employee information, training, and certification; signage; record keeping; monitoring; and agency notification.

Section 5193 Bloodborne Pathogens Standard

The Bloodborne Pathogens Standard applies to all occupational exposure to blood or other potentially infectious materials. The standard requires that employers prepare and implement an exposure control plan for at-risk employees and students who work with human blood or other potentially infectious materials, which in turn protects the general public. This standard also describes the Cal/OSHA regulations for bloodborne pathogens (BSL-1 and 2) including required BMBL standards.

Section 5193 also states that the employer shall establish and maintain a Sharps Injury Log; a record of each exposure incident involving a sharp, describes various methods of compliance, states prohibited practices, and other safety practices.

Section 5199 Aerosol Transmissible Disease

The Aerosol Transmissible Disease (ATD) standard requires employers to take certain actions, including implementation of required BMBL standards, to protect employees from exposure to ATDs and airborne transmissible pathogens (ATPs). Protecting employees from exposure to ATDs and ATPs also protects the general public because the potential for release of ATDs and ATPs is minimized and backup containment measures are required to be used in the event that a release occurs. The standard applies to occupations in laboratories, health care facilities and services (such as medical offices, clinics, skilled nursing facilities, hospitals, paramedic and emergency treatment, and medical transport), public health services, and facilities such as jails, homeless shelters, and drug treatment programs. The standard also covers aerosol transmissible pathogens – laboratory (ATPs-L), which are pathogens where BSL-3 or -4 precautions are recommended by either the BMBL or the lab's biosafety officer (Cal/OSHA 2019).

Hazardous Waste Management

DTSC, a department of California's EPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in the state. DTSC regulates hazardous waste 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 CCR Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

United States Code 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, U.S. Department of Health Services lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks or a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

California Health and Safety Code Chapter 6.95, Articles 1 and 2

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), the California Office of Emergency Services 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. The Office of Emergency Services requires that basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) be available to firefighters, public safety officers, and regulatory agencies. Typically, this information is included in business plans to prevent or mitigate 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.

State of California Vehicle Code Section 3200.5

A valid Hazardous Materials Transportation License, issued by the California Highway Patrol, is required by the laws and regulations of State of California Vehicle Code Section 3200.5 for transportation of either:

- Hazardous materials shipments for which the display of placards is required by state regulations, or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the California Highway Patrol under the authority of the State Vehicle Code.

Asbestos-Containing Materials Regulations

State agencies, in conjunction with the federal EPA and OSHA, regulate removal, abatement, and transport procedures for ACMs. Releases of asbestos from industrial, demolition, or construction activities are prohibited by these regulations, which define practices and procedures that must be followed to reduce the risk of release. Medical evaluation and monitoring is required for employees

performing activities that could expose them to asbestos. In addition, federal, state, and local agencies must be notified prior to the onset of demolition or construction activities with the potential to release asbestos.

Medical Waste Management Act

Biologically infectious and/or medical waste (“red bag waste”) is regulated in California under the Medical Waste Management Act (MWMA) found at Health and Safety Code sections 117600 et seq. The MWMA is overseen by the California Department of Public Health (CDPH); any laboratory that handles or stores bloodborne pathogens or other biohazards generates red bag waste and is therefore subject to the Act. The CDPH extends authority to local agencies (most commonly County level government agencies, such as SMCEHD for oversight and enforcement.

Regional and Local Regulations

Asbestos Demolition, Renovation, and Manufacturing

As noted previously, BAAD is responsible for ensuring compliance with the federal and state Asbestos NESHAP. To control emissions of asbestos to the atmosphere during demolition, renovation, milling and manufacturing and ensure appropriate disposal of ACM, BAAD has adopted Regulation 11 Hazardous Pollutants, Rule 2 Asbestos Demolition, Renovation, and Manufacturing. This rule requires that a survey be performed to determine the presence of ACM prior to beginning any demolition or renovation activity, and establishes special procedures and work practices that must be followed during any project involving the removal of ACM. Failure to meet these requirements may result in penalties, or civil or criminal prosecution (BAAQMD 2018).

San Mateo County Environmental Health Division

SMCEHD provides services to ensure a safe and healthy environment in San Mateo County through education, monitoring, and enforcement of regulatory programs and services for the community. Their services include restaurant and housing inspection, household hazardous waste and medical waste disposal, water protection and water quality monitoring, pollution prevention, and other regulatory activities and services. The SMCEHD additionally has oversight authority of laboratory uses through the MWMA, and conducts inspections, surveillances, or monitoring, or other purposes to protect the present and future public health and safety and the environment as provided in Chapter 6.5 and 6.8 of the California Health and Safety Code and Chapter 4 of Division 7 of the Water Code.

2021 Multijurisdictional Local Hazard Mitigation Plan

In partnership with 36 local governments and special districts, San Mateo County prepared a Multijurisdictional Local Hazard Mitigation Plan (LHMP) that assesses hazard vulnerabilities and identifies mitigation actions to reduce the level of injury, property damage, and community disruption that might otherwise result from such events. The LHMP addresses natural and human-caused hazards, including flooding, drought, wildfire, landslides, severe weather, terrorism, cyber threats, pandemic, and the impact of climate change on hazards, as well as other hazards. The Multijurisdictional LHMP is presented in two volumes—Volume 1 contains area-wide risk assessments and mitigation actions, and Volume 2 provides a

dedicated annex for each planning partner to present jurisdiction-specific components (County of San Mateo 2021).

The Menlo Park annex of the LHMP identifies the most prevalent hazards in the City, particularly the Bayfront Area, as flooding, sea level rise, earthquakes, and liquefaction. It recognizes that actions and strategies contained in the City's adopted Emergency Operation Plan and Climate Action Plan contribute to mitigating the risks and planning for emergency response. The City provides emergency notifications to residents by providing information on the City website and social media and through participation in the countywide San Mateo County Alert system that provides emergency notifications via voice calls, SMS texts, and email. The City also uses Zonehaven, which is an evacuation platform connected to the San Mateo County Alert system (County of San Mateo 2021).

City of Menlo Park General Plan

The City's General Plan (specifically the Land Use Element, Open Space/Conservation Element, Noise Element, and Safety Element) contains general goals, policies, and programs that would require local planning and development decisions to consider impacts on hazards and hazardous materials.

Land Use Element

GOAL LU-1: Promote the orderly development of Menlo Park and its surrounding area.

Program LU-1.D: [Infill Development Streamlined Review](#). Establish Zoning Ordinance provisions to streamline review of infill development through "uniformly applicable development policies or standards" (per CEQA Guidelines Section 15183.3) that reduce potential adverse environmental effects, such as: regulations governing grading, construction activities, storm water runoff treatment and containment, hazardous materials, and greenhouse gas emissions; and impact fees for public improvements, including safety and law enforcement services, parks and open space, and transit, bicycle, and pedestrian infrastructure.

GOAL LU-4: Promote and encourage existing and new business to be successful and attract entrepreneurship and emerging technologies for providing goods, services amenities, local job opportunities and tax revenue for the community while avoiding or minimizing potential environmental and traffic impacts.

Policy LU-4.5: [Business Uses and Environmental Impacts](#). Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

GOAL LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

Policy LU-7.7: [Hazards](#). Avoid development in areas with seismic, flood, fire and other hazards to life or property when potential impacts cannot be mitigated.

Open Space and Conservation Element

Goal OSC-5: Ensure healthy air and water quality. Enhance and preserve air quality in accord with State and regional standards, and encourage the coordination of total water quality management including both supply and wastewater treatment.

Policy OSC-5.2: Development in Industrial Areas. Evaluate development projects in industrial areas for impacts to air and water resources in relation to truck traffic, hazardous materials use and production-level manufacturing per the California Environmental Quality Act (CEQA) and require measures to mitigate potential impacts to less than significant levels.

Safety Element

Goal S-1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.

Policy S-1.1: Location of Future Development. Permit development only in those areas where potential danger to the health, safety and welfare of the residents of the community can be adequately mitigated.

Policy S-1.3: Hazard Data and Standards. Integrate hazard data (geotechnical, flood, fire, etc.) and risk evaluations into the development review process and maintain, develop and adopt up-to-date standards to reduce the level of risk from natural and human-caused hazards for all land use.

Policy S1.5: New Habitable Structures. Require that all new habitable structures to incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.

Policy S1.16: Hazardous Materials Regulations. Review and strengthen, if necessary, regulations for the structural design and/or uses involving hazardous materials to minimize risk to local populations. Enforce compliance with current State and local requirements for the manufacturing, use, storage, transportation and disposal of hazardous materials, and the designation of appropriate truck routes in Menlo Park.

Policy S1.18: Potential Hazardous Materials Conditions Investigation. Continue to require developers to conduct an investigation of soils, groundwater and buildings affected by hazardous-material potentially released from prior land uses in areas historically used for commercial or industrial uses, and to identify and implement mitigation measures to avoid adversely affecting the environment or the health and safety of residents or new uses.

Policy S1.29: Fire Equipment and Personnel Access. Require adequate access and clearance, to the maximum extent practical, for fire equipment, fire suppression personnel and evacuation for high occupancy structures in coordination with the Menlo Park Fire Protection District.

Policy S1.30: Coordination with the Menlo Park Fire District. Encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the Menlo Park Fire Protection District prior to project approval.

Program S1.J: Require Health and Safety Plan for Hazardous Materials. Require the preparation of health and safety plans to be used to protect the general public and all workers in construction areas from potentially hazardous materials. The plan shall describe the practices and procedures to protect worker health in the event of an accidental release of hazardous materials or if previously undiscovered hazardous materials are encountered during construction. The plan shall include items such as spill prevention, cleanup and evacuation procedures. The plan will help protect the public and workers by providing procedures and contingencies that will help reduce the exposure to hazardous materials.

Circulation Element

Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.

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.

City of Menlo Park Emergency Operations Plan

The City of Menlo Park 2014 Emergency Operations Plan (EOP) describes how the City will manage and coordinate resources and personnel responding to a range of “extraordinary” emergency situations including natural disasters and technological incidents. The operational concepts reflected in the EOP focus on potential large-scale disasters which can generate unique situations requiring expanded emergency responses. It uses principles from the Federal National Incident Management System, the California Standardized Emergency Management System, and the Incident Command System to ensure a comprehensive and effective strategy for providing a coordinated and efficient response to major emergencies. The EOP defines emergency response phases and emergency levels; specifies policies and general procedures, including protocols for communication between emergency service providers and for communication with the public; defines and delegates tasks for emergency staff; and provides for coordination of planning efforts (City of Menlo Park 2014).

4.3.3 Thresholds of Significance

The significance criteria used to evaluate the Project's impacts related to hazards and hazardous materials are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to hazards and hazardous materials would occur if the Project would:

- A. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- B. 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.
- C. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- D. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- E. Be located within an airport land use plan, be within two miles of a public airport, and would result in a safety hazard or excessive noise for people residing or working in the project area.
- F. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- G. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.
- H. Result in cumulative impacts related to hazards and hazardous materials,

The Initial Study for this EIR, which was made available for public review during the public review period for the Notice of Preparation, found that the Project would have no impacts or less than significant impacts associated with thresholds D, E, F, and G because the Project site is not a hazardous material site, is not located within the vicinity of an airport, and is not in a moderate or higher fire hazard severity zone and the Project would not interfere with implementation of the City's Emergency Operations Plan. Thus, these thresholds are not evaluated further in this section.

With respect to threshold D, page 74 of the Initial Study incorrectly indicated that the project would have No Impact related to the project site being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5; however the analysis on pages 83 and 84 of the Initial Study explained that although the site is not included on a list of hazardous materials sites, the ConnectMenlo EIR MM HAZ-4a would apply to this site and that the Project-specific MM HAZ-A included in the Initial Study would be implemented in place of ConnectMenlo EIR MM HAZ-4a. However, in this section's analysis of B, MM HAZ-A has been revised and updated and is now identified as MM 4.3a. Thus, during project construction, implementation of MM HAZ-A would not occur and instead the project would implement MM 4.3a.

As noted previously, the Initial Study for this EIR also found that the Project's impacts associated with thresholds A, B, and C would remain less than significant with implementation of MMs and through

compliance with existing regulations and therefore the NOP stated that this topic would not be addressed in the Draft EIR. However, public comments received in response to the NOP raised concerns about possible risks to human health and the environment associated with operation of the proposed life sciences and R&D land uses, including due to potential accidental release of hazardous materials. The comments did not raise new information leading to a potential new significant impact; however to provide a conservative analysis the City has elected to include this section to evaluate potential Project impacts associated with thresholds A, B, and C to support full consideration of the NOP comments regarding the possible release of hazardous materials from the Proposed Project.

4.3.4 Impacts and Mitigation Measures

Methodology

The following reports and data sources document potentially hazardous conditions at the Project site and were reviewed for this analysis:

- Available literature, including documents published by federal, state, County, and City agencies,
- Combined Phase I and II ESA prepared by Farallon Consulting in September 2021 (Appendix D), and
- California Environmental Protection Agency's Cortese List Database (SWRCB 2022, 2024a, and 2024b and DTSC 2024a).

Project construction and operation were evaluated against the hazardous materials information gathered from these sources to determine whether any risks to public health and safety or other conflicts would occur. The following impact analysis assumes that Project construction and operation would occur in compliance with federal, state, and local regulations governing hazards and hazardous materials and that MMs are not necessary to ensure such compliance. Thus, where such existing regulations are sufficient to ensure that impacts would remain less than significant, no MMs are identified.

Project Impacts

Impact 4.3-1 Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Project implementation involves demolition of existing on-site structures and construction of new R&D buildings and associated amenities. Specifically, the Project proposes to demolish three existing commercial and industrial buildings, construct two R&D buildings and an above grade parking structure with six parking levels. The Project would also develop approximately 59,344 square feet of open space, to include landscaping, gathering areas, and a sports court. The Project would be developed in two phases, with the south and east portion of the site being redeveloped in Phase 1 and the western portion of the site being redeveloped in Phase 2.

Project Construction

Project construction activities would involve the temporary storage, use, and transport of hazardous materials (e.g., fuels, lubricants, paint, solvents, cleaners). Non-hazardous materials generated through

demolition would be removed from the site and transported to the Shoreway Environmental Center for recycling and disposal. As noted in Section 4.3.1, Environmental Setting, given the ages of the existing buildings onsite, ACM and LBP were likely to have been used in their construction (Appendix D). Thus, demolition of the buildings could result in release of these hazardous materials into the environment. However, Project construction would be short-term and would not result in the long-term routine transport of hazardous materials. Thus, potential effects associated with use, transport, and release of hazardous materials during construction are addressed in Impact 4.3-2.

Project Operation

Laboratories associated with R&D/life sciences uses typically use various materials that can pose a hazard to human health and the environment if they are not managed correctly. Such materials are collectively referred to as microorganisms, biologic materials and/or biohazards. These include naturally occurring bacteria, viruses, molds, yeasts, toxins (which are produced by plants, molds, and bacteria), as well as altered bio-organisms which are natural organisms that have been subject to changes in their DNA through life sciences research and development activities. If altered bio-organisms are released into the environment, there is a “potential for these engineered molecules to combine with naturally occurring DNA in either humans, animals or the natural environment to cause unknown harm” (Harris & Lee 2023a).

R&D/life sciences laboratories are categorized by biosafety levels (BSLs) 1 through 4. As discussed in section 4.3.2, Regulatory Framework, these levels correspond to the containment measures needed based on the specific types and nature of the biologic materials and/or biohazardous materials that are used in the facility, and as described in the BMBL. BSL-1 agents pose minimal or no known potential hazards to individuals and the environment. BSL-2 agents are considered to be of ordinary potential hazard and may produce varying degrees of disease through accidental inoculation but may be effectively contained by ordinary laboratory techniques and specific laboratory equipment. BSL-3 agents pose a more substantial risk, and work with these agents must be conducted in contained facilities for which airflow is directed into the laboratory and access is controlled separately from public areas. BSL-4 includes all of the requirements and precautions of BSL-3 but adds additional requirements including authorization for material acquisition and handling from the CDC through the Federal Select Agent Program and/or the Import Permit Program.

The Project sponsor anticipates that the Proposed Project would be occupied by BSL-1 or BSL-2 laboratories, as is typical for existing laboratories in the LS District including those currently located on the site, but specific tenants have not been identified. However, as is the case with all laboratory uses in Menlo Park, current City regulations do not prohibit BSL-3 and BSL-4 laboratories. Regardless of the BSL, the Proposed Project would comply with all applicable federal, State, and local standards as discussed in Section 4.3.2. Furthermore, in accordance with standard industry practice, the Proposed Project would also meet relevant standards in the BMBL and NIH Guidelines. All new laboratories that use hazardous materials or generate biohazardous waste are required to obtain a permit for hazardous materials and/or medical waste generation, which will trigger review. The following discussion identifies the specific measures that would be incorporated in facility design and operations to comply with applicable regulations and ensure that the potential for routine transport, use, or disposal of hazardous materials to create a significant hazard to the public and/or the environment is minimized.

Barriers

Under CCR Title 8 and the BMBL, facilities at any BSL that engage in potentially biohazardous work, such as life sciences laboratories, are required to include Primary Barriers (Biologic Safety Cabinets or BSCs) and Secondary Barriers (facility design requirements). These barriers act as the first line of defense to protect workers, building occupants, and the environment and community from exposure. When buildings are operating normally these measures prevent worker exposure and the escape of biohazards contained in laboratories. For higher-risk operations (BSL-3 and BSL-4), containment requirements increase with the degree of hazard. In the event of an HVAC and/or complete power failure, backup power from the building's emergency power generator would be triggered, which would maintain operation of the Primary and Secondary barriers. If the emergency power generator capacity is exhausted or fails during an HVAC or electrical failure, the Primary and Secondary Barriers of a laboratory also function as a passive barrier for keeping biohazards inside the building, thereby minimizing the risk of escape of biohazards. Barriers are redundant such that if one barrier fails (i.e., a BSC failure), the next barrier (i.e., a laboratory facility) would contain that escape to prevent release into the wider building or community (NIH 2019, Harris and Lee 2023b).

Biosafety Plans

Under CCR Title 8, facilities at any BSL are required to develop a biosafety plan. As discussed in Section 4.3.2, Cal/OSHA regulations for bloodborne pathogens (BSL-1 and 2) and ATD (BSL-3 and above), require that the facility's biosafety plan addresses engineering controls (e.g., BSCs), work practices, personal protective equipment requirements, disinfection and decontamination requirements, biohazardous waste management, and risk management procedures in the event of an accidental biohazard release. The ATD standard requires that the biosafety plan define emergency procedures to be implemented in the event of "uncontrolled releases within the laboratory and untreated releases outside the laboratory facility; these procedures shall include effective means of reporting such incidents to the local health officer" (CCR Title 8, Section 5199(f)(4)(J)). For the proposed building, the local health officer would be designated by the SMCEHD.

Emergency Response/Action Plans

As discussed in Section 4.3.2, any facilities that use select agents must meet the requirements of the Federal Select Agent program, which includes developing an emergency and security plan that must be submitted to the federal government for oversight; while handling of select agents must be covered by the facility's biosafety plan, as discussed above.

In addition, a facility emergency response plan must be prepared and submitted to San Mateo County in compliance with the County's hazardous material business plan and hazardous waste generator permit program. San Mateo County's Medical Waste Management Plan oversight focuses on proper disposal and leak prevention of medical waste (which includes biohazardous waste) as well as decommissioning oversight for laboratories that move or go out of business.

Finally, all companies with 10 or more employees are required by Cal/OSHA to have a written emergency action plan (CCR Title 8, Section 3220) that ensures employee safety from fire and "other emergencies." Other emergencies would include earthquakes, other natural disasters and hazard-specific emergencies,

including chemical and biological hazard spills, leaks, and/or releases. Preparation of an emergency action plan that specifically addresses biohazardous release would be included in the commissioning review for BSL-3 and above laboratories as part of the review process by the SMCEHD.

Conclusion

Compliance with the existing laws and regulations, as well as standard industry practices, described above would ensure that impacts associated with the accidental release of biohazardous material would be less than significant, regardless of the BSL level for tenants of the Proposed Project's laboratory spaces. Although not required to reduce impacts to a less-than-significant level, the City, at its discretion, could also require, as a condition of approval for the Proposed Project, that:

- A. Any permits issued during occupancy of the Project (including but not limited to building permit or hazardous materials use permit) for BSL-3 or BSL-4 laboratories shall include documentation of third-party certification and commissioning completed by or under the supervision of a qualified Certified Industrial Hygienist with demonstrated practice in biosafety, Registered Biosafety Professional, or Certified Biosafety Professional; and
- B. That the Project Sponsor include in the lease agreement for every future tenant of the building a standard clause requiring that, prior to commencement of operation of a BSL-3 or BSL-4 laboratory, the tenant inform the City of Menlo Park Planning Division of its intent to operate a BSL-3 or BSL-4 laboratory and notifying the tenant of the City's requirement to have the tenant provide the City with documentation of certification and commissioning of such laboratory. Documentation for such a laboratory would include:
 - a. Confirmation of compliance with relevant regulatory requirements as well as BMBL and NIH guidelines (whether or not the laboratory receives federal funding); and
 - b. Adequate mechanical/HVAC equipment capacity to satisfy regulatory requirements and serve the proposed use; and
 - c. Implementation of standard required containment protocols, including primary and secondary barriers appropriate for the biohazard level, as the first line of defense in the event of complete building failure (including electrical and/or HVAC failure) and compliance with existing and applicable regulations that require biosafety plans that establish emergency procedures in the event of an accidental biohazard release.

Project construction would occur over a limited time period in two separate phases. The first phase is expected to have a duration of approximately 22 months and the second phase is expected to have a duration of approximately 14 months. Given the limited duration of construction, it would not require routine transport, use, or disposal of hazardous materials, and any construction transport of hazardous materials would be required to comply with existing regulations. Because operation of the Project would comply with existing hazardous materials laws and regulations, impacts related to creation of significant hazards to the public through routine transport, use, disposal, and risk of upset would not occur. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

Impact 4.3-2 Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Project implementation would involve demolition of three existing on-site buildings and construction of two new R&D buildings, one parking structure, landscaping, and a sports court. As discussed in more detail below, demolition and construction activities inherently involve the risk of accidental release of hazardous materials. Further, as discussed in Impact 4.3-1, operation of the R&D buildings would involve the use of hazardous materials. Therefore, there is a potential for hazardous materials to be accidentally released into the environment.

Project Construction

Compliance with federal, state, and local requirements governing use, transport, and disposal of hazardous materials described in Section 4.3.2 would minimize the potential for construction activities to result in an accidental release of hazardous materials into the environment. General Plan Program S1.J commits the City to requiring preparation and implementation of a Hazardous Materials Health and Safety Plan which would outline practices and procedures to minimize the potential for accidental release and to protect the health of construction workers and the public in the event of accidental hazardous material release as well as spill prevention, cleanup, and evacuation procedures.

Transportation of hazardous materials on area roadways is regulated by the California Highway Patrol and California Department of Transportation, whereas use of these materials is regulated by DTSC, as outlined in CCR Title 22. Construction contractors would be required to use, store, and transport hazardous materials in compliance with federal, state, and local (e.g., general plan policies and SMCEHD requirements) regulations during construction. Any disposal of hazardous materials would occur in a manner consistent with applicable regulations and at an appropriate off-site disposal facility.

Compliance with existing regulations that govern the transportation of hazardous materials and the use and disposal of such materials would minimize the potential for the demolition and construction activities necessary to implement the Proposed Project to result in spills or leaks that could create a significant hazard to the public or the environment, and that if spills or leaks do occur, they are properly and promptly cleaned up and the materials disposed of at an appropriate waste-handling facility.

As required by policy S-1.18, a combined Phase I and Phase II ESA was prepared for the Project site, as discussed in Section 4.3.1. The ESA found that there are no recognized environmental conditions at the Project site that would affect the Project and concluded that the Project site is suitable for the proposed land uses (Appendix D). Specifically, only minor violations of hazardous materials storage regulations occurred onsite, and there were no listings for the Project site in the SWRCB or DTSC databases. Thus, there is no evidence that a substantial spill or release of hazardous materials has occurred on the Project site.

Preparation of the Phase II ESA included analysis of groundwater samples. The samples were found to contain low levels of total petroleum hydrocarbons and benzene, below the applicable environmental screening levels established by the SWRCB, and thus there is no risk of vapor intrusion at the Project site associated with the prior gasoline station that was located adjacent to the site (Appendix D).

The GeoTracker and EnviroStor databases identify other releases of hazardous materials at several other facilities proximate to the Project site. However, the Phase II ESA concludes that based on these sites' current regulatory status, topographic location relative to the Project site, and/or relative distance from the Project site, these facilities do not represent a recognized environmental condition that could affect the Project (Appendix D). No new hazardous waste release events have been added to GeoTracker or EnviroStor since preparation of the Phase I and II ESA (SWRCB 2022 and 2024a, DTSC 2024a). Although there is no evidence of soil or groundwater contamination at the site, SMCEHD is the designated Certified Unified Program Agency and is required to be notified if evidence of previously undiscovered soil or groundwater contamination (e.g., stained soil, odorous groundwater) is encountered during Project construction and ground-disturbing activities.

As noted previously, given the age of the existing buildings onsite, it is likely that they contain ACM and/or LBP. These materials could be released into the environment during demolition if appropriate control measures are not implemented. This could expose construction workers and site neighbors to hazards associated with airborne asbestos and lead. Thus, Project construction has the potential to result in a significant impact due to accidental release of hazardous materials.

Project Operation

As discussed in Impact 4.3-1, operation of life sciences facilities and laboratories typically involves the use of various materials that can pose a hazard to human health and the environment if they are not managed correctly. However, there are a wide range of measures that each life sciences facility must implement to minimize the potential for accidental and uncontrolled release of biohazardous materials. These include Primary Barriers and Secondary Barriers as well as higher levels of physical containment required for higher risk operations (BSL-3 and BSL-4). These barriers prevent worker exposure and escape of biohazards. Laboratories are also required to have back-up emergency power, which ensures that the ventilation and other barrier mechanisms that require power will continue to operate in the event of a power failure. Additionally, laboratories are required to have redundant barrier mechanisms so that if one fails, the hazardous materials are still contained.

Further, the biosafety plans discussed in Impact 4.3-1 are required to define protocols to be followed in the event of any accidental release of hazardous materials. These may include personnel protective equipment requirements, disinfection and decontamination procedures, biohazardous waste management and risk management procedures, and emergency procedures for any uncontrolled releases within the laboratory and/or untreated releases outside the laboratory facility. Biosafety plans are also required to address handling and emergency and security plans for select agents.

Compliance with these requirements is ensured by San Mateo County, through its hazardous material business plan and hazardous waste generator permit program and by Cal/OSHA when a business or facility has more than 10 employees.

Conclusion

Because the existing buildings are likely to contain ACM and/or LBP, but no survey of the buildings has been conducted to identify specific locations of such materials and appropriate control measures to be implemented during construction, Project implementation could result in the release of hazardous

materials during demolition. Impacts would be **potentially significant**. During Project operation, compliance with the existing laws and regulations, as well as standard industry practices, described above would ensure that impacts associated with the accidental release of biohazardous material would be **less than significant**, regardless of the BSL level for tenants of the Proposed Project's laboratory spaces.

Mitigation Measures

MM 4.3a ensures compliance with General Plan Program S1.J, as well as the ESA's recommendation of a Site Mitigation Plan for the demolition phase, by requiring preparation of a Hazardous Materials Health and Safety Plan. MM 4.3a also specifies that this plan must include provisions for conducting surveys to identify ACM and LBP and ensuring compliance with applicable state and federal regulations. Implementation of this MM would ensure that potential impacts of the Proposed Project due to demolition of buildings that may contain ACM and LBP and use of hazardous materials during construction would be reduced to a **less-than-significant** level.

MM 4.3a Hazardous Materials Health and Safety Plan. Prior to commencement of any demolition or construction activities, the Project applicant shall prepare a Hazardous Materials Health and Safety Plan that identifies required practices and procedures to protect the general public and construction workers from potentially hazardous materials and accidental release of hazardous materials. The practices and procedures shall include spill prevention, cleanup and evacuation procedures as well as procedures to be followed in the event that previously undiscovered hazardous materials are encountered during construction. The Hazardous Materials Health and Safety Plan shall demonstrate compliance with California Code of Regulations (CCR), Title 8, Chapter 4: Subchapter 4: Construction Safety Orders; Subchapter 5: Electrical Safety Orders; and Subchapter 7: General Industry Safety Orders as well as California Health and Safety Code, Section 25100 et seq.: Hazardous Waste Control Act.

The Hazardous Materials Health and Safety Plan shall also include provisions for completion of a comprehensive survey within each existing building to identify asbestos-containing materials (ACM) and lead-based paints (LBP) prior to any demolition activities and shall define procedures for managing demolition activities such that ACM and LBP are not released into the air and worker exposure to ACM and LBP is avoided. These procedures shall be sufficient to ensure that demolition of buildings containing ACM and/or LBP and disposal of these materials will be conducted in accordance with local, state and federal regulations, including the U.S. Environmental Protection Agency's (EPA's) Asbestos National Emissions Standards for Hazardous Air Pollutants, the California Occupational Safety and Health Administration's Construction Lead Standard (8 CCR 1532.1), California Department of Toxic Substances Control and EPA requirements for disposal of hazardous waste, and Bay Area Air District (BAAD) Regulation 11, Hazardous Pollutants Rule 2: Asbestos Demolition, Renovation And Manufacturing. At least 10 days prior to demolition, the Project applicant and/or construction contractor shall submit an Asbestos Notification to BAAD and obtain an Asbestos Demolition/Renovation job number. Disposal of any ACM and/or LBP found on the site shall be carried out by a contractor trained and qualified to conduct lead- or asbestos-related construction work and in accordance with the

appropriate state and federal standards to ensure that these materials are not released into the air in the Project vicinity.

Impact 4.3-3 Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

As noted in Chapter 3, Project Description, implementation of the Project would involve demolition of three existing buildings and the construction of two R&D buildings, one parking structure, landscaping, and a sports court. Table 4.3-1 shows the distance from the Project site of schools in the vicinity. Two are within the 0.25-mile threshold for Impact 4.3.3: Mid-Peninsula High School (classrooms 100 feet away, sport field immediately adjacent), and Open Mind School (0.23 miles)

Table 4.3-1. School Proximity to Project Site

School	Distance to Project Site (Miles)
Mid-Peninsula High School classroom building (sport field is immediately adjacent)	0.02 miles
Open Mind School	0.23 miles
Cesar Chavez Ravenswood Middle School	0.37 miles
Belle Haven Elementary School	0.54 miles
Little Oak Preschool	0.63 miles
Costaño Elementary School	0.72 miles
KIPP Valiant Community Preparatory School	0.96 miles
TIDE Academy	1.31 miles
Whole Kid School	1.55 miles
Menlo-Atherton High School	1.65 miles
San Francisco 49ers Academy	3.67 miles

Project Construction

Construction of the Project would be similar to other redevelopment projects in the vicinity. As described in Impacts 4.3-1 and 4.3-2, any use, storage, transport, and/or disposal of hazardous materials would occur in compliance with local, state, and federal regulations during construction. Further, buildout of the Proposed Project would require preparation and implementation of a Hazardous Materials Health and Safety Plan, as required by MM 4.3a, consistent with General Plan Program S1.J. The Hazardous Materials Health and Safety Plan must include best practices and procedures related to spill prevention, cleanup, and evacuation procedures during construction.

As discussed in Section 4.1, Air Quality, a Health Risk Assessment (HRA) was prepared to evaluate the potential for Project construction to cause a significant “incremental cancer risk,” which is the increased likelihood that a person continuously exposed to concentrations of toxic air contaminants (TACs) resulting from a project over a 9-year, 30-year, and 70-year exposure period would contract cancer. In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be diesel particulate matter emitted from heavy-duty construction equipment and heavy-duty trucks.

As shown in Table 4.1-9, the results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in an on-site cancer risk above the 10 in 1 million threshold for the Project. The Chronic Hazard Index for the Project would be less than one and the maximum PM_{2.5} concentration would be 0.19 µg/m³. Therefore, TAC emissions from construction activities associated with the Project may expose sensitive receptors to substantial pollutant concentrations of TACs and would result in a **potentially significant** impact.

Project Operation

No boilers, incinerators, or other equipment that generate daily onsite emissions are proposed. As discussed in Section 4.1, each of the two proposed R&D buildings would be equipped with a diesel-fuel emergency electrical power generator, which would generate TAC emissions when subject to routine testing and maintenance and when used during a power outage. However, the emissions from the generators would remain well below the Bay Area Air District thresholds, as shown in Table 4.1-8 and operation of the Project would result in less than significant health effects associated with criteria air pollutants. Additionally, as discussed in Impact 4.3-1, although operation of life sciences facilities and laboratories typically involves the use of various materials that can pose a hazard to human health if they are emitted from the facility, there are a wide range of measures that each life sciences facility must implement to minimize the potential for accidental and uncontrolled release of biohazardous materials. These include Primary Barriers and Secondary Barriers as well as higher levels of physical containment required for higher risk operations (BSL-3 and BSL-4). Thus, it is unlikely that the operation of the Project would result in hazardous emissions that could affect students and staff at nearby schools and the impact of Project operation would be **less than significant**.

Mitigation Measures

As discussed in Impact 4.3-2, implementation of a Hazardous Materials Health and Safety Plan as required by MM 4.3a would ensure that individuals who are located near the Project site, including students and staff at Mid-Peninsula High School, would not be exposed to hazardous emissions, including those associated with LBP and ACM, during demolition and construction.

As discussed in Section 4.1, the impact associated with TAC exposure at and immediately adjacent to the Project site during construction would be reduced to a less than significant level with implementation of MM 4.1b, which requires the use of Tier 4 Final engines on construction equipment to reduce diesel particulate matter emissions.

Implementation of MMs 4.3a and 4.1b would reduce the Project's potential impact of causing hazardous emissions within 0.25 miles of an existing school. Therefore, this impact would be **less than significant**.

MM 4.3a is required as identified under Impact 4.3-2 and is not restated here.

MM 4.1b is required as identified under Air Quality Impact 4.1-2 and is not restated here.

No additional mitigation measures are required.

Cumulative Impacts

Impact 4.3-4 Would the Project result in cumulative impacts related to hazards and hazardous materials or emergency response and evacuation?

The cumulative context for hazardous materials is considered local, generally limited to the Project site, properties within 1,000 feet of the Project site, and properties with contaminated groundwater that are upgradient of the site. Though some hazardous materials releases can cover a large area and interact with other releases (e.g., atmospheric contamination, contamination of groundwater aquifers), incidents of hazardous materials contamination are typically isolated to a small area, such as leaking underground storage tank sites or release of contaminants at individual businesses. Because of this, isolated areas of contamination typically do not interact in a cumulative manner with other sites of hazardous materials contamination.

The Project involves construction and operation of R&D buildings which may include life sciences uses and associated site improvements. The proposed land use is consistent with the site's land use and zoning designations as adopted under ConnectMenlo. The ConnectMenlo EIR found that with implementation of ConnectMenlo EIR MMs HAZ-4a and HAZ-4b, there would be no significant cumulative impacts associated with hazards and hazardous materials.

While it is possible that construction activities associated with Project construction could result in the accidental disturbance and/or release of hazardous materials, implementation of MM 4.3a would provide for appropriate treatment and handling of any hazardous materials within the bounds of the Project site prior to and during Project construction. MM 4.3a would therefore ensure that the Project would not create any new potential cumulative hazardous materials impacts. Further, the Project would not create a new site of contamination or contribute substantially to a hazardous condition in the general Project area. As discussed in Impact 4.3-1, Project operation would be subject to a wide range of federal and state regulations that govern use, handling, management, transport, and disposal of hazardous materials that may be used in the R&D laboratories that would be constructed as part of the Project. These include physical containment measures, material handling protocols, and emergency planning to minimize the chance for hazardous materials to be released to the environment and ensure swift and appropriate responses to any accidental releases. Compliance with the existing regulations regarding hazardous materials would ensure that the Project would not create or contribute to a new significant cumulative impact associated with such materials.

Future projects within the area could add uses that may use, store, and/or generate hazardous materials. However, these projects would be subject to the same hazardous materials laws and regulations as the Project and would be required to implement project-specific mitigation consistent with applicable laws and regulations to reduce any significant hazards and hazardous materials impacts. Any hazardous materials stored on site (at the Project site and related sites) would be used and stored in compliance with applicable federal and state laws related to the storage of hazardous materials, thereby limiting their potential contribution to less than cumulatively considerable, similar to the Proposed Project. Therefore, cumulative hazardous materials impacts would be **less than significant**, consistent with the findings of the ConnectMenlo EIR.

Mitigation Measures

MM 4.3a is required as discussed under Impact 4.3-2. No additional mitigation measures are required.

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4.4 Noise

This section describes the existing noise and vibration conditions of the proposed 1005 O'Brien Drive/1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project) site and vicinity, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures (MMs) related to implementation of the Project. The primary sources reviewed to prepare this section include the ConnectMenlo General Plan Update (City of Menlo Park 2016a), the ConnectMenlo General Plan Update EIR (City of Menlo Park 2016b), the City of Menlo Park Municipal Code (City of Menlo Park 2023), and the Noise Calculations and Specifications prepared by Dudek in January 2024 (Appendix K).

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR), in June 2023. Mid-Peninsula High School submitted a comment letter raising concern about possible construction and operational noise impacts to the school. The NOP and the comments received in response to it are provided in Appendix G of this EIR.

4.4.1 Environmental Setting

Characteristics of Environmental Noise

Fundamentals of Acoustics

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that disrupts or interferes with normal human activities. Although exposure to high noise levels over an extended period has been demonstrated to cause hearing loss, the principal human response to noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise, its appropriateness in the setting, the time of day, the type of activity during which the noise occurs, and the sensitivity of the individual.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by a number of variables including frequency and level. Frequency describes the sound's pitch and is measured in Hertz (Hz), while intensity describes the sound's loudness and is measured in decibels (dB). Decibels are measured using a logarithmic scale. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB. Sound levels above approximately 120 dB begin to be felt inside the human ear as discomfort and eventually pain at still higher levels. The minimum change in the sound level of individual events in an outdoor environment that an average human ear can detect is approximately 3 dB (Caltrans 2013). An increase (or decrease) in sound level of approximately 10 dB is usually perceived by the average person as a doubling (or halving) of the sound's loudness, this relation holds true for loud sounds and for quieter sounds (Caltrans 2013).

Because of the logarithmic nature of the decibel unit, sound levels cannot be added or subtracted directly and are somewhat cumbersome to handle mathematically. However, some simple rules of thumb are useful in dealing with sound levels. First, if a sound's source is doubled, the sound level increases by 3 dB, regardless of the initial sound level (Caltrans 2013). Thus, for example:

$$\begin{aligned}60 \text{ dB} + 60 \text{ dB} &= 63 \text{ dB, and} \\80 \text{ dB} + 80 \text{ dB} &= 83 \text{ dB}\end{aligned}$$

Hertz is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a number of times per second. A particular tone that makes the drum vibrate 100 times per second generates a sound pressure wave that is oscillating at 100 Hz; this pressure oscillation is perceived as a tonal pitch of 100 Hz. Sound frequencies between 20 Hz and 20,000 Hz are within the range of sensitivity of the human ear.

Sound from a tuning fork (a pure tone) contains a single frequency. In contrast, most sounds one hears in the environment consist of a broad band of frequencies differing in sound level. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound according to a weighting system that reflects the fact that human hearing is less sensitive at low frequencies and extremely high frequencies than at the mid-range frequencies. This is called “A” weighting, and the decibel level measured is called the A-weighted sound level (dBA). In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear.

Although the A-weighted sound level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from several sources that creates a relatively steady background noise in which no particular source is identifiable. A single descriptor called the equivalent sound level (L_{eq}) represents the “equivalent” constant sound level that would have to be produced by a given source to equal the fluctuating level measured. L_{eq} is the mean A-weighted sound level during a measured time interval. In addition, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the L_{max} and L_{min} indicators. They represent the maximum and minimum noise levels measured.

To describe the time-varying character of environmental noise, the statistical noise descriptors L_{10} , L_{50} , and L_{90} are commonly used. They are the noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of a stated time. Sound levels associated with the L_{10} typically describe transient or short-term events, while levels associated with the L_{90} describe the steady-state (or most prevalent) noise conditions.

Community Noise

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. The L_{eq} is a common statistical tool used to measure the ambient noise level over a given time period (usually 1 hour). The L_{eq} is the foundation of the community noise equivalent level (CNEL) noise descriptor and shows very good correlation with community response to noise for the average person.

The CNEL is based on the average noise level over a 24-hour day, with a +5 dB weighting applied to noise occurring during evening (7 p.m. to 10 p.m.) and a +10 dB weighting applied to noise occurring during nighttime (10 p.m. to 7 a.m.) hours. The evening and nighttime penalties are based upon the assumption that people react to evening exposures with a markedly greater sensitivity than daytime and react to nighttime noise exposures as though they were twice as loud as daytime exposures. CNEL is used by agencies such as the California Governor’s Office of Planning and Research and Caltrans to define acceptable land use compatibility with

respect to noise. Because CNEL represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Where short-term noise sources are an issue, noise impacts may be assessed in terms of maximum noise levels, hourly averages, or other statistical descriptors.

Perception of Loudness

The perceived loudness of sounds and corresponding reactions to noise are dependent on many factors, including sound pressure level, duration of intrusive sound, frequency of occurrence, time of occurrence, and frequency content. As mentioned above, however, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighting network. Table 4.4-1 shows examples of noise levels for several common noise sources and environments.

Table 4.4-1. Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
—	110	Rock band
Jet flyover at 300 meters (1,000 feet)	100	—
Gas lawn mower at 1 meter (3 feet)	90	—
Diesel truck at 15 meters (50 feet), at 80 kph (50 mph)	80	Food blender at 1 meter (3 feet) Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime gas lawn mower at 30 meters (100 feet)	70	Vacuum cleaner at 3 meters (10 feet)
Commercial area, heavy traffic at 90 meters (300 feet)	60	Normal speech at 1 meter (3 feet)
Quiet urban daytime	50	Large business office Dishwasher, next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
—	10	Broadcast/recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2013.

Notes: dBA = A-weighted decibels; kph = kilometers per hour; mph = miles per hour.

Sound Propagation

It is commonly understood that sound decreases with distance. However, the propagation of sound is dependent on considerably more variables than distance alone. Those variables include the type of noise source (point, moving point, or line sources), the directionality of the noise source, the frequency content of the source (low frequency sound is absorbed in the atmosphere at a slower rate than high-frequency sound and therefore carries farther), atmospheric conditions (wind, temperature, humidity, gradients), ground type (e.g., dirt, grass fields, concrete), shielding (structures, noise barriers, topography), and vegetation.

For the purposes of assessing noise sources within the Project site, traffic on public roadways is considered a “moving point” source. The sound level decay rate for this type of source is 3 dB per doubling of distance from the source over hard ground conditions.

Psychological and Physiological Effects of Noise

Human reactions to noise can vary based on the setting, time of day, and sound level. At lower sound levels, noise that is perceived as excessive can cause annoyance and interference with typical activities, such as conversation, using radio or television, and sleeping. At higher sound levels, physiological effects can occur. Specifically, prolonged noise exposure in excess of 75 dBA increases body tensions which can affect blood pressure and functions of the heart and nervous system. Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA, and extended periods of noise exposure above 90 dBA results in permanent cell damage. This is the primary reason for federal and state regulations for employee hearing protection in the workplace.

Vibration

According to California Department of Transportation’s (Caltrans) Transportation and Construction Vibration Guidance Manual (Caltrans 2020), groundborne vibration can be a serious concern for nearby neighbors of an active construction site or heavily traveled roadway, causing buildings to shake and rumbling sounds to be heard. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and operating heavy earth-moving equipment.

The effects of groundborne vibration include “feelable” movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measurement results in terms of peak particle velocities (PPV) (inches/second). Table 4.4-2 provides groundborne vibration damage thresholds for various types of buildings.

Table 4.4-2. Vibration Level Damage Thresholds for Various Building Types c

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50

Table 4.4-2. Vibration Level Damage Thresholds for Various Building Types c

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Modern industrial/commercial buildings	2.00	0.50

Source: Caltrans 2020.

Notes: PPV = peak particle velocity; in/sec = inches per second.

Noise and Vibration Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration, including residential, school, and open space/recreation areas where quiet environments are necessary for enjoyment, public health, and safety. Sensitive receptors in the vicinity of the Project site include Mid-Peninsula High School which is adjacent to the north side of the Project site (with the classroom building at a distance of approximately 100 feet from the Project site boundary and athletic fields within approximately 15 feet); multi-family residences along the west side of Willow Road (MidPen Gateway Rising approximately 250 feet to the northwest and senior residences along the west side of Willow Road at MidPen Sequoia Belle Haven approximately 300 southwest of the Project site); single-family residences along Albern Street (approximately 325 feet south of the Project Site); and Open Mind School approximately 900 feet east of the Project site. Eternal Life Church occupies the structure at 965 O'Brien Drive, which is immediately adjacent to the western Project Site boundary; however, services at Eternal Life Church are conducted Sunday morning and Wednesday evening (see <https://elcmenlopark.com/location>), outside of the construction hours window and typical operating schedule for the Project.

Existing Noise Sources

The immediate Project vicinity is developed with commercial, light industrial and some institutional land uses. Noise sources within the vicinity include heating, ventilation, and air conditioning systems, loading docks, trash compactors, and machinery required for manufacturing or other industrial processes.

The primary noise contributor to the noise environment of the Project site is traffic along immediately adjacent segments of Willow Road (State Route 114), which carries commuter passenger vehicles enroute to Dumbarton Bridge and truck traffic associated with commercial and industrial land uses in the vicinity. A secondary contributor is vehicle traffic along O'Brien Drive, which provides a connection between University Avenue (State Route 109) and Willow Road, the primary routes for commuters to access Dumbarton Bridge.

There are several airports and airfields in the communities surrounding the City, the closest of which (Palo Alto Municipal Airport) is approximately 2 miles to the southeast of the Project site. However, the Project site does not fall within the runway protection zones, as shown in Figure 7 of the Palo Alto Airport Comprehensive Land Use Plan (CLUP), or the 55 dBA community noise equivalent level (CNEL) noise contours as shown in Figure 5 of the Palo Alto CLUP) (Santa Clara County ALUC 2020). The Project site is not located within 2 miles of any other airfield, and does not fall within the planning area, runway protection zones, or 55 dBA CNEL contours of any airfield or airport.

Existing Ambient Noise Levels

Sound level measurements were conducted on October 12, 2023, to document the existing noise environment adjacent to the Project area to establish baseline noise conditions against which to compare Proposed Project noise levels. Specific consideration was given to document noise levels in the vicinity of nearby noise-sensitive receptors and existing periodic noise source levels. All noise measurements were performed in accordance with American National Standards Institute (ANSI) and American Standards for Testing and Measurement (ASTM) guidelines, at three locations in Proposed Project area, as shown on Figure 4.4.1.

Noise measurements were performed using a SoftdB Picollo II, Type 2 integrating sound level meter (SLM). A field calibration was performed on the SLM with an acoustic calibrator before and after the measurements. The equipment used meets all pertinent specifications of the ANSI for Type 2 SLMs (ANSI S1.4-1983 [R2006]). Meteorological conditions during the monitoring periods were fair with a temperature of 66 degrees Fahrenheit, light winds of 1 mph, and clear sunny skies during the October 12, 2023, short-term monitoring surveys. No precipitation was experienced during the monitoring period.

Short-term (i.e., less than one hour in duration) noise monitoring was conducted at three locations to characterize noise levels generated from traffic and to provide additional insight into the existing ambient noise environment. Site ST-1 was located along the Willow Road frontage of the closest residences (MidPen Gateway Rising multi-family residential development at 1345 Willow Road) to the northwest of the Project site. The ambient noise levels documented at Site ST-1 would also be representative for ambient noise levels at the closest residences to the southeast (MidPen Sequoia Belle Haven senior apartments at 1221 Willow Road), given both properties are located a similar distance from traffic along Willow Road (which is the only source of noise adjacent to either receptor). Site ST-2 was located on the south/east side of O'Brien Drive, across from Open Mind School. Site ST-3 was located near the western terminus of Kavanaugh Drive due east of the Project site, adjacent to single-family residences. Short-term monitoring at locations ST-1 thru ST-3 included concurrent manual traffic counts and vehicle classification during the measurement period to aid in quantifying traffic noise levels.

The sound level meter was configured to record data for one-minute intervals; total duration of measurements at each location ranged from 10 to 15 minutes, based upon the number of vehicles on the adjacent roadway passing the measurement point. Sound level metrics including L_{eq} , L_{max} , L_{min} , were recorded for each one-minute period. Data logs for each of the three measurement locations are included in Appendix K. Table 4.4-3 presents the baseline sound level survey results as the average (L_{eq}) across the duration of the measurement at each location. Refer to Appendix K for the complete data logs from the sound level meter over the measurement period.

Table 4.4-3. Ambient Noise Level Measurement Results

Site	Location	Date/Time	L_{eq} dBA
ST-1	Willow Road adjacent to multi-family residential development (1345 Willow Road)	10/12/23 8:50 – 9:00 a.m.	71
ST-2	South/east side of O'Brien Drive, across from Open Mind School (1200 O'Brien Drive)	10/12/23 9:22 – 9:37 a.m.	67

Table 4.4-3. Ambient Noise Level Measurement Results

Site	Location	Date/Time	L_{eq} dBA
ST-3	Western terminus of Kavanaugh Drive (1412 Kavanaugh Drive)	10/12/23 8:50 – 9:00 a.m.	55

Source: Appendix K.

Note: dBA = A-weighted decibel; L_{eq} = Equivalent sound level.

Measured sound levels were very dependent upon traffic along the roadway adjacent to the measurement point, which is expected since traffic noise is typically a primary contributor to the ambient noise environment in an urban setting. ST-1 was located adjacent to Willow Road, a heavily travelled major arterial serving commuters, and therefore exhibited the highest noise levels in the survey with a recorded average of 71 dBA L_{eq} . ST-2 was located adjacent to O'Brien Drive, which carries some commuter traffic as well as trucks delivering goods within the surrounding industrial area, with a recorded ambient noise level of 67 dBA L_{eq} . ST-3 was located adjacent to Kavanaugh Drive, a residential collector street with considerably lower traffic; the ambient noise level recorded at ST-3 was only 55 dBA L_{eq} . Traffic-related sound levels tend to be relatively constant during the day, decreasing in the evening and overnight period.

Existing Traffic Noise

Existing traffic noise levels were modeled for roadway segments in the Project vicinity using Microsoft Excel spreadsheets incorporating the equations and algorithms contained in the Federal Highway Administration (FHWA) Highway Traffic Noise Model 2.5 (TNM 2.5), and traffic data provided in the traffic analysis prepared for the Project (Appendix M1). The FHWA TNM 2.5 derived equations and algorithms represent state-of-the-art prediction of sound emissions and sound propagation, based on well-established theory and accepted international standards, which have been validated with respect to carefully conducted noise measurement programs and show excellent agreement in most cases for sites with and without noise barriers. The noise modeling accounted for factors such as vehicle volume, speed, vehicle type, roadway configuration, distance to the receiver, and propagation over different types of ground (acoustically soft and hard ground).

Table 4.4-4 identifies the TNM 2.5 output values for the traffic noise levels at the building facades and the outdoor activity area of noise-sensitive receptors in proximity to the respective roadway segment. The extent to which existing land uses in the Project vicinity are affected by existing traffic noise depends on their respective proximity to the roadways, shielding provided by intervening objects (such as buildings) and their individual sensitivity to noise. As shown in Table 4.4-4, existing traffic noise levels within outdoor activity areas of noise-sensitive land uses adjacent to major roadway segments in the Project vicinity ranged from approximately 60 to 64 dBA CNEL.

Table 4.4-4. Modeled Existing Traffic Noise Levels^c

Number	Description	Modeled Noise Levels (dBA)	
		L_{eq} Peak Hour	CNEL
Segment 1	Willow Road – Hamilton to Ivy	66	61
Segment 2	Willow Road – Ivy to O'Brien	66	61

Table 4.4-4. Modeled Existing Traffic Noise Levels^c

Number	Description	Modeled Noise Levels (dBA)	
		L _{eq} Peak Hour	CNEL
Segment 3	Willow Road – O'Brien to Newbridge	68	63
Segment 4	Willow Road – Newbridge to US Highway 101	69	64
Segment 5	O'Brien Drive – Willow Rd. to Kavanaugh	65	60
Segment 6	University Avenue – O'Brien to Kavanaugh	66	62

Source: Appendix K.

Note: dBA = A-weighted decibel; L_{eq} = equivalent hourly average noise level; L_{dn} = Day/night average sound level.

Vibration

The existing vibration environment, similar to that of the noise environment, is dominated by transportation-related vibration from roadways adjacent to the Proposed Project area. Heavy truck traffic can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the roadway right-of-way (Caltrans 2020).

4.4.2 Regulatory Framework

Federal Regulations

Federal Noise Control Act

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, the EPA Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government and responsibilities for regulating noise control policies were transferred to state and local governments. Thus, there are no federal noise regulations directly applicable to the Proposed Project.

However, noise control guidelines and regulations contained in the EPA rulings in prior years are still adhered to by designated federal agencies where relevant and are often relied upon in noise impact analyses conducted in California. This includes EPA guidelines regarding noise levels identified as a requisite to protect public health and welfare related to noise in its document entitled “Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.” This document notes that the guidance provided therein was based on the best available information at the time, and that more investigations and analysis was needed. Additional research has been conducted since that document was prepared. Current guidance from the National Institutes of Health provides that “sounds of less than 75 decibels, even after long exposure, are unlikely to cause hearing loss. However, long or repeated exposure to sounds at or above 85 decibels can cause hearing loss” (NIH 2016).

Federal Interagency Committee on Noise

In order to determine a significant increase in noise exposure from the existing conditions to existing plus Project condition or cumulative to cumulative plus Project, the values in Table 4.4-5 are used as recommendations based on studies by the Federal Interagency Committee on Noise (FICON). The FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. The FICON studies assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations.

The 2000 FICON findings provide some guidance as to the significance of changes in ambient noise levels due to transportation noise sources. Annoyance is a summary measure of the general adverse reaction of people to noise that interferes with speech and conversation, sleep, or the desire for a tranquil environment.

The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} . The changes in noise exposure relative to existing noise levels, as shown in Table 4.4-5, are considered to be changes that are sufficient to cause annoyance and potentially to interfere with normal activities at sensitive land uses. Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are commonly applied to any transportation source (including local roadways) and consequently are used in this analysis for traffic noise described in terms of L_{dn} .

As shown in Table 4.4-5, an increase in noise from similar sources of 5 dB or more would be noticeable where the ambient level is less than 60 dBA. Where the ambient level is between 60 and 65 dBA, an increase in noise of 3 dB or more would be noticeable, and an increase of 1.5 dB or more would be noticeable where the ambient noise level exceeds 65 dBA L_{dn} . The rationale for the criteria shown in Table 4.4-5 is that, as ambient noise levels increase, a smaller increase in noise resulting from a project would be noticeable.

Table 4.4-5. Measures of Substantial Increase for Transportation Noise Exposure

Ambient Noise Level Without Project	Significant Impact Occurs if the Project Increases Ambient Noise Levels by:
<60 dBA	+ 5 dB or more
<60–65 dBA	+ 3 dB or more
>65 dBA	+ 1.5 dB or more

Source: FICON 2000.

Notes: dBA = A-weighted decibel; dB = decibel.

State Regulations

California Noise Control Act of 1973

Sections 46000 through 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, declares that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also identifies a continuous and increasing bombardment of noise in the urban, suburban, and rural areas.

The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

Governor's Office of Planning and Research General Plan Guidelines

The Governor's Office of Planning and Research published the State of California General Plan Guidelines (OPR 2003), which provides guidance for the acceptable noise level exposure for various types of land uses, as summarized in Table 4.4-6. The guidelines also present adjustment factors that may be used to help craft noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Table 4.4-6. Summary of Land Use Noise Compatibility Guidelines

Land Use Category	Community Noise Exposure (dBA CNEL)			
	Normally Acceptable ¹	Conditionally Acceptable ²	Normally Unacceptable ³	Clearly Unacceptable ⁴
Residential—Low-Density Single-Family, Duplex, Mobile Home	<60	60–70	70–75	75+
Residential—Multifamily	<65	60–70	70–75	75+
Transient Lodging—Motel, Hotel	<65	60–70	70–80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60–70	70–80	80+
Auditoriums, Concert Halls, Amphitheaters	—	<70	65+	—
Sports Arena, Outdoor Spectator Sports	—	<75	70+	—
Playgrounds, Neighborhood Parks	<70	—	67.5–75	72.5+
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	—	70–80	80+
Office Building, Business Commercial, and Professional	<70	67.5–77.5	75+	—
Industrial, Manufacturing, Utilities, Agriculture	<75	70–80	75+	—

Source: OPR 2003.

Notes: dBA = A-weighted decibels; CNEL = community noise equivalent level.

- ¹ Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- ² New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
- ³ 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 insulation features included in the design. Outdoor areas must be shielded.
- ⁴ New construction or development should generally not be undertaken.

Generally, exterior noise levels for a residential area are acceptable when they are no greater than 60 dBA CNEL. Exterior noise levels are normally unacceptable for residences where they exceed 70 dBA CNEL and conditionally acceptable within 60 to 70 dBA CNEL. Exterior noise exposure levels for schools are normally acceptable in areas up to 70 dBA CNEL and normally unacceptable in areas exceeding 70 dBA CNEL.

Exterior noise levels for commercial uses are normally acceptable in areas up to 70 dBA CNEL. Exterior noise levels between 67.5 and 77.5 dBA CNEL, are conditionally acceptable for commercial uses, depending on the noise insulation features and the noise reduction requirements.

California Department of Transportation – Vibration

There are no state standards or regulations for vibration; however, Caltrans has developed a compendium of research to use as the basis for recommendations that can serve as a quantified standard in the absence of such limits at the local jurisdictional level. In their Transportation and Construction Vibration Guidance Manual, Caltrans recommends a vibration velocity threshold of 0.2 in/sec PPV for assessing “annoying” vibration impacts to occupants of residential structures. For protection against structural damage Caltrans recommends a threshold of 0.5 in/sec PPV for typical residential and commercial structures of modern construction, 0.3 in/sec PPV for older residential structures, and 0.25 in/sec PPV for historic structures and some older buildings (Caltrans 2020). Another unit that is sometimes used in describing vibration is the root mean squared (RMS), which is an average value for vibration energy across a given period for oscillations in both a positive and negative direction (up and down in relation to the ground surface). Standard vibration measurement equipment employed in the field records PPV data, these can be converted to RMS units with the below formula.

$$\text{RMS} = \text{PPV} / 1.414$$

Regional and Local Regulations

City of Menlo Park General Plan

The City’s General Plan Noise Element contains the following goals and policies related to the evaluation of the Project’s noise impacts.

Goal N-1: Achieve acceptable noise levels.

Policy N-1.1: 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 N-1.2: 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 Development¹ to the siting and required mitigation for new uses in existing noise environments.

Policy N-1.4: 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

¹ Menlo Park General Plan Land Use Compatibility Noise Standards chart is consistent with the California OPR land use compatibility noise standards presented in Table 4.4-5.

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 N-1.6: 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 N-1.8: 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 N-1.10: 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.

Policy N-1.D: Minimize Construction Activity Noise. Minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA [California Environmental Quality Act] review, conditions of approval and enforcement of the City's Noise Ordinance.

City of Menlo Park Municipal Code

Chapter 8.06 of the City's Municipal Code contains noise limitations and exclusions for land uses within the City. This Chapter addresses noise limits that constitute a noise disturbance, measured primarily at residential land uses. It also specifies standard procedures for conducting noise measurements, with specifications for sound-meter settings and placement. In addition, Municipal Code Chapter 16, Zoning, regulates noise associated with roof-mounted equipment. The following Municipal Code sections govern the analysis of the Project's potential noise impacts.

8.06.030 Noise Limitations

Except as otherwise permitted in this chapter, any source of sound in excess of the sound-level limits set forth in Section 8.06.030 shall constitute a noise disturbance. For purposes of determining sound levels from any source of sound, sound level measurements shall be made at a point on the receiving property nearest where the sound source at issue generates the highest sound level.

1. For all sources of sound measured from any residential property:
 - a. "Nighttime" hours (10:00 p.m. to 7:00 a.m.) – 50 dBA
 - b. "Daytime" hours (7:00 a.m. to 10:00 p.m.) – 60 dBA

8.06.040 Exceptions

- a. Construction Activities
 1. Construction activities between the hours 8:00 a.m. and 6:00 p.m. Monday through Friday.
 2. Notwithstanding any other provisions set forth above, all powered equipment shall comply with the limits set forth in Section 8.06.040 (b).
- b. Powered Equipment
 1. Powered equipment used on a temporary, occasional, or infrequent basis operated between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday. No piece of equipment shall generate noise in excess of 85 dBA at 50 feet.
- c. Deliveries
 1. Deliveries to food retailers and restaurants.
 2. Deliveries to other commercial and industrial businesses between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. Saturdays, Sundays, and holidays.

8.06.050 Exemptions

- a. Sound Generated by Motor Vehicles. Sound generated by motor vehicles, trucks, and operated on streets and highways; aircraft, trains; and other public transportation.
 1. This exemption shall not apply to the operation of any vehicle (such as attached refrigeration and/or heating units or any attached auxiliary equipment) for a period in excess of 10 minutes in any hour while the vehicle is stationary, for reasons other than traffic congestion.

16.08.095 Roof-mounted equipment.

Mechanical equipment, such as air-conditioning equipment, ventilation fans, vents, ducting, or similar equipment, may be placed on the roof of a building, provided that such equipment is screened from view as observed at an eye level horizontal to the top of the roof-mounted equipment, except for the SP-ECR/D district, which has unique screening requirements, and all sounds emitted by such equipment shall not exceed fifty (50) decibels at a distance of fifty (50) feet from such equipment (Ord. 979, Section 3 (part), 2012; Ord.819 Section 1 (part), 1991).

4.4.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts related to noise and vibration are based on Appendix G and Section 15130 of the CEQA Guidelines. A significant impact related to noise or vibration would occur if the Project would:

- A. Result in generation of 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.

- B. Result in generation of excessive groundborne vibration or groundborne noise levels.
- C. 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.
- D. Result in cumulatively considerable noise impacts.

The Initial Study for this EIR, which was made available for public review during the public review period for the Notice of Preparation, found that the Project would have no impacts associated with threshold C because the Project site is not within vicinity of an airstrip or airport. Thus, this threshold is not evaluated further in this section.

4.4.4 Impacts and Mitigation Measures

Methodology

Construction Noise

Construction-related noise effects were assessed with respect to nearby noise-sensitive receptors and their relative exposure (accounting for intervening topography, or barriers), based on application of FHWA Roadway Construction Noise Model (FHWA 2008) and FTA reference noise level data, usage-factors and calculation methods. Construction noise was modeled for the various construction stages, based on information provided by the Project proponent on the equipment that is anticipated to be used during a given stage of construction. Combining the noise level from the two or three loudest pieces of equipment and assuming they are all operating very close to one another and very near the closest offsite sensitive receptor results in a reasonably representative worst-case combined noise level.

Construction noise taking place from 8:00 a.m. to 6:00 p.m. is considered exempt from the general quantitative noise standards of the City, except for the noise limit on individual pieces of powered equipment, for which the maximum permissible noise level is 85 dBA at 50 feet, as stated in Menlo Park Municipal Code Section 8.06.040(b)(1). Analysis to determine if equipment proposed for Project construction would comply with this threshold is also included. In addition, despite the exemption for daytime construction noise, construction activities that are exempt from specified noise limitations in the Menlo Park Municipal Code could still result in a significant physical impact on the environment. Therefore, construction noise generated during daytime hours is compared to the existing ambient noise level to estimate temporary increases in noise over the existing ambient level. An evaluation is conducted to determine if a 10 dB increase over the existing ambient noise, perceived as a doubling of loudness, would be expected to occur at nearby noise-sensitive land uses.

Building Mechanical, Heating, Ventilation, and Air Conditioning

Mechanical equipment associated with the long-term operation of the Proposed Project includes air handling units, cooling towers, exhaust fans, and heat pumps (generally classified as heating, ventilation, and air conditioning, or HVAC equipment) that can potentially be significant noise sources. Noise levels generated by HVAC equipment vary significantly depending on unit size, efficiency, location, and type of rotating or reciprocating components. As part of the certification process, manufacturers are required to

perform sound testing of mechanical equipment and to identify sound levels generated by equipment operation, designated as a sound power rating. Unlike sound pressure (which varies with distance from the source) the sound power rating signifies the sound energy produced by a source. Standard equations can then be used to convert sound power to sound pressure at a specified distance from the source.

According to the mechanical equipment specifications provided by the Project architect, HVAC equipment would be mounted on the building rooftops (Appendix H). The Project Sponsor's consultant, Vibrasure Acoustical Engineers, performed an analysis of rooftop equipment noise levels at 50 feet, based upon equipment location details and screen wall heights indicated in the plan set (Appendix K). The Vibrasure report was reviewed by the EIR consultant to confirm the assumptions, methodology, and conclusions are appropriate to support the analysis in this section.

Emergency Generators

To ensure that critical functions such as elevators, safety systems, and lighting can remain operational during an electrical service disruption affecting the Project, each of the two buildings is proposed to be equipped with an emergency electrical power generator. Operating noise from generators would be exempt during an emergency, as identified in Section 8.06.050(b) of the Menlo Park Municipal Code. However, noise associated with periodic generator testing is not considered exempt. During testing, generator noise must meet allowable noise levels, as established in the Menlo Park Municipal Code. The make and model of the generators to be employed have not yet been determined for the Project. As a result, this analysis is based on noise levels from a representative generator of a size/capacity specified for a research office building like those of the Project. A 1,500-kilowatt (kW) Generac SD1500 generator was used for the generator noise analysis. Because specific details about generator installation (i.e., exposed generator in a fenced equipment yard versus incorporation of factory sound enclosure) are not provided in the Project site plans, this analysis conservatively presents unattenuated noise levels from emergency generator testing.

Calculations were performed to estimate noise from the Project generators at the closest noise-sensitive receivers, based on installation locations identified on the Project site plans. The proposed generator location for 1005 O'Brien is adjacent to the east end of 965 O'Brien; the proposed generator location for 1320 Willow Road is immediately adjacent to the southern building façade. Estimated noise levels were then compared to the allowable noise levels in Menlo Park (i.e., 60 dBA during daytime hours [7:00 a.m. to 10:00 p.m.] and 50 dBA during nighttime hours [10:00 p.m. to 7:00 a.m.]) when measured at the closest noise-sensitive neighbors to the Project site.

Traffic Noise

Traffic noise modeling involved the calculation of baseline and cumulative traffic noise levels along roadway segments where the Proposed Project elements would contribute additional vehicle trips, based on traffic data developed as part of the transportation analysis prepared for the Project (Appendix M1). Traffic noise levels were calculated using Excel-based spreadsheets that incorporate the calculations and algorithms of the FHWA TNM 2.5 prediction model (FHWA 2004). Traffic noise levels were modeled for Year 2027 No Project, Year 2027 Plus-Project, Year 2040 (cumulative) No Project, and Year 2040 (cumulative) Plus Project conditions. Year 2027 represents the anticipated timing for full buildout of the two phases (assuming continuous construction without a delay for Phase 2). Modeling outputs for the Plus Project

scenarios were evaluated against the No Project scenarios to determine the potential for an increase of traffic noise levels and exceedance of applicable noise level criteria and impact thresholds.

To determine existing CNEL traffic noise levels in the Project vicinity, the Year 2027 average daily traffic volumes for roadways in the immediate vicinity of the Project site were used as inputs to the noise model. Standard assumptions were used and inputs to the model were made to reflect diurnal traffic patterns and vehicle classifications (i.e., small automobiles, medium trucks, heavy trucks, motorcycles, and buses). Although the Project may not be operational in 2027 due to the anticipated construction phasing and the timing of tenant lease expiration, the use of the year 2027 traffic volumes provides a reasonable basis for evaluating traffic noise conditions. If project buildout occurs in later years, incremental increases in traffic volumes would be minor and would not be expected to substantially change the traffic noise modeling results or the resulting impact conclusions.

Other Operational Noise Sources

Groundborne vibration impacts were assessed based on existing reference documentation (e.g., vibration levels produced by specific construction equipment operations), through the application of Caltrans methodology outlined within the Transportation- and Construction- Induced Vibration Guidance Manual (Caltrans 2020) and the relative distance to potentially sensitive receptors from a given vibration source.

Project Impacts

Impact 4.4-1	Would the Project result in generation of 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?
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Construction Noise

The Proposed Project would generate noise associated with the operation of heavy construction equipment and construction related activities in the vicinity of the Project area. Construction noise levels in the vicinity of the Project area would fluctuate depending on the particular type, number, and duration of usage for the various pieces of equipment, as well as the relative exposure and distance between the source and receptors.

The effects of construction noise depend largely on the types of construction activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the vicinity of the receiver. The City defines ambient noise as the average of the predominant noise sources in the environment. Here, ambient noise is dependent on the average traffic noise, which is the primary contributor to the noise environment in the area of the Proposed Project. Construction generally occurs in several discrete stages, with each stage having differing equipment mixes and associated noise levels. These stages alter the characteristics of the noise environment on the Project site and in the surrounding community for the duration of construction. The Proposed Project is anticipated to include demolition, site preparation, grading, building construction, paving and architectural coating.

To assess noise levels associated with the various equipment types and operations, construction equipment can be considered to operate in two modes, mobile and stationary. Mobile equipment sources

move around a construction site performing tasks in a recurring manner (e.g., loaders, graders, dozers). Stationary equipment operates in a given location for an extended period of time to perform continuous or periodic operations (e.g., compressor or generator). Thus, it is necessary to determine the location of stationary sources during specific stages of construction, and the effective acoustic center of operations for mobile equipment during various stages of the construction process. The effective acoustic center is the idealized point from which the energy sum of all construction activity noise near and far would appear to originate. As one increases the distance between equipment and/or between areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of separate noise sources added together. Construction noise level exposure for nearby noise-sensitive receivers based on the acoustic center distance is considered an appropriate representation of average construction noise over the course of the entire construction phase. This methodology is consistent with FTA's 'general assessment' technique (FTA 2018). To calculate the distance from each representative receiver location to the acoustical center of the construction zone, the distance from the farthest construction zone boundary is multiplied by the distance to the closest construction zone boundary, and the square root of the resultant product is taken, as shown below (FTA 2018).

$$\text{Acoustic Center Distance} = \text{Square Root } (D_{\text{near}} * D_{\text{far}})$$

Operational characteristics of heavy construction equipment are additionally typified by short periods of full-power operation followed by periods of operation at lower power, idling, or powered-off conditions. These characteristics are accounted for through the application of typical usage factors (operational percentage) applied to the FHWA and FTA reference maximum noise levels, usage factors and resulting L_{eq} . Noise levels from various types of construction equipment are provided in Table 4.4-7.

Table 4.4-7. Noise Levels from Construction Equipment

Equipment Type	Usage Factor (%)	Noise Levels, (dBA) at 50 feet	
		L_{max}	L_{eq}
Air Compressor	40	80	76
Backhoe	40	80	76
Compactor	20	80	73
Concrete Pump	20	82	75
Concrete Saw	20	90	83
Crane, Mobile	16	85	77
Dozer	40	85	81
Forklift	40	85	81
Front-End Loader	40	80	76
Generator	50	82	79
Grader	40	85	81
Mounted Impact Hammer (Hoe Ram)	20	90	83
Paver	50	85	82
Pneumatic Tools	50	85	82
Rock Drill	20	85	78
Roller	20	85	78
Scraper	40	85	81

Table 4.4-7. Noise Levels from Construction Equipment

Equipment Type	Usage Factor (%)	Noise Levels, (dBA) at 50 feet	
		L _{max}	L _{eq}
Trucks (Flatbed)	40	84	80
Water Pump	50	77	74
Welder	40	73	69

Source: DOT 2008, FTA 2018.

Notes: dBA = A-weighted decibels; L_{max} = day-night average noise level.

All equipment fitted with a properly maintained and operational noise control device, per manufacturer specifications.

Menlo Park Municipal Code Section 8.06.040 subsections (a) and (b) address construction noise and state that individual pieces of construction equipment shall not exceed 85 dBA L_{eq} at a distance of 50 feet from the source. As shown in Table 4.4-7, noise from the individual pieces of equipment associated with Project construction would not be expected to exceed the 85 dBA L_{eq}, 50-foot threshold. Because individual power equipment anticipated to be used for Project construction would comply with this limit, impacts related to individual equipment noise exceedances would be **less than significant**.

Although specific building design and construction requirements for buildout of the Project are currently unknown, it is anticipated that development of the various Project elements would incorporate the use of typical construction sources such as backhoes, compressors, bulldozers, excavators, loaders and other related equipment based on assumptions provided by the Project proponent. The Project is not anticipated to require the use of blasting or driven piles, and where additional foundational support is necessary displacement auger cast piles will be used. Based on the reference noise levels, usage rates, and operational characteristics discussed above, overall hourly average noise levels attributable to Project construction activities were calculated by construction stage and are provided in Tables 4.4-8 and 4.4-9. Construction noise levels were calculated based upon two scenarios: 1) worst-case noise levels with construction equipment operating along the construction boundary closest to the modeled receiver, as shown in Table 4.4-8; and 2) typical or average construction noise levels using the distance from the acoustic center to the modeled receiver, as shown in Table 4.4-9. The receiver locations are shown in Figure 4.4-2.

Construction noise levels presented in Table 4.4-8 for the nearby noise sensitive receptors include worst-case conditions (construction equipment working along the closest construction boundary, which would not be expected to occur more than approximately 10% of the construction effort (FHWA 2017)), while construction noise levels in Table 4.4-9 address typical conditions (based on the representative distance from the acoustic center of the Proposed Project construction activities to the modeled receptor). Given the overall size of the Project site, and the relatively equal distribution of proposed development across the property, noise levels derived from the acoustic center of construction activity provide a better representation of average noise level exposure across the entire construction process for a given off-site receiver (Table 4.4.9), compared to using the minimum distance worst-case method (Table 4.4.8). The tables also indicate the amount by which the Project construction noise level would exceed the existing ambient noise level (shown in parenthesis) followed by the amount by which the Project construction noise would exceed the Municipal Code thresholds.

In addition to the Municipal Code absolute noise level thresholds, the Project's construction activities must be evaluated to determine if they would result in a significant increase over the ambient noise levels. This analysis is performed by comparing the modeled construction noise levels at the nearby noise-sensitive receivers to the estimated existing ambient noise levels at the respective receivers. The increase resulting from the modeled construction noise levels over the ambient level is provided in Tables 4.4-8 and 4.4-9; the increase is shown in parentheses for each receiver location and construction stage. As shown, the construction activities are calculated to result in increases over ambient noise levels ranging from 0 to 29 dBA Leq in the worst-case scenario (Table 4.4-8) and from 0 to 6 dBA Leq in the average noise level scenario (Table 4.4-9).

Table 4.4-8. Construction Noise Levels at Representative Receptor Locations Using Distance to Closest Construction Zone Boundary (Worst-Case)

Receiver ¹		Construction Noise Level, Leq dBA (increase over ambient), increase over threshold ²					
No.	Description ¹	Demolition	Site Prep.	Grading	Building Const.	Arch Coating	Paving
Phase 1							
1	Mid-Peninsula High School (Minimum Distance 15 feet – Sports Field) ³	96 (29), 11	91 (24), 6	84 (17), 0	80 (13), 0	72 (5), 0	69 (2), 0
	Mid-Peninsula High School (Minimum Distance 85 feet – Classroom) ³	80 (13), 0	75 (8), 0	77 (10), 0	73 (6), 0	65 (0), 0	66 (0), 0
2	Gateway Rising Residences (Minimum Distance 420 feet) ³	62 (0), 0	57 (0), 0	63 (0), 0	59 (0), 0	51 (0), 0	54 (0), 0
3	Sequoia Belle Haven Residences (Minimum Distance 445 feet) ³	62 (0), 0	57 (0), 0	62 (0), 0	58 (0), 0	50 (0), 0	54 (0), 0
4	Alberni Street Residences (Minimum Distance 345 feet) ³	64 (9), 0	59 (4), 0	65 (10), 0	61 (6), 0	53 (0), 0	56 (1), 0
Phase 2							
1	Mid-Peninsula High School (Minimum Distance 62 feet – Sports Field) ³	84 (17), 0	79 (12), 0	84 (17), 0	80 (13), 0	72 (5), 0	69 (2), 0
	Mid-Peninsula High School (Minimum Distance 85 feet – Classroom) ³	78 (11), 0	73 (6), 0	77 (10), 0	73 (6), 0	65 (0), 0	60 (0), 0
2	Gateway Rising Residences (Minimum Distance 305 feet) ³	60 (0), 0	55 (0), 0	60 (0), 0	57 (0), 0	50 (0), 0	56 (0), 0
3	Sequoia Belle Haven Residences (Minimum Distance 345 feet) ³	63 (0), 0	58 (0), 0	63 (0), 0	60 (0), 0	53 (0), 0	59 (0), 0

Table 4.4-8. Construction Noise Levels at Representative Receptor Locations Using Distance to Closest Construction Zone Boundary (Worst-Case)

Receiver ¹		Construction Noise Level, L_{eq} dBA (increase over ambient), increase over threshold ²					
No.	Description ¹	Demolition	Site Prep.	Grading	Building Const.	Arch Coating	Paving
4	Alberni Street Residences (Minimum Distance 425 feet) ³	62 (5), 0	57 (0), 0	63 (4), 0	59 (2), 0	51 (0), 0	54 (1), 0

Source: Appendix K.

Notes:

dBA = A-weighted decibels; L_{eq} = equivalent hourly average noise level.

¹ Receiver locations are shown on Figure 4.4-2.

² Compared to construction noise significance threshold of 85 dBA L_{eq} .

³ Approximate distance from closest boundary of construction zone to the noise sensitive land use.

As described previously, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level as it increases or decreases, respectively. Therefore, an increase in noise of 10 dB or more above the existing (ambient) background noise level would be considered substantial and constitute a significant impact.

As shown in Table 4.4-8, construction noise levels at the Mid-Peninsula High School sports field would range from 69 to 96 dBA L_{eq} during Phase 1 of construction, and from 69 to 84 dBA L_{eq} during Phase 2 of construction, using the worst-case minimum distance from the closest edge of the construction zone to the closest edge of the sports field. These potential construction noise levels range up to 29 dBA over ambient. Under this worst-case scenario, the periods during which the City's 85 dBA threshold would be exceeded at the Mid-Peninsula High School sports field are limited to demolition and site preparation during Phase 1; however the City's 10 dBA above ambient noise levels threshold would be exceeded in all periods except for architectural coatings and paving. The sports field has an average width of 125 feet (measured perpendicular to the Project site's northern boundary); the City can suggest to the school that it locate sports activities in the far side of the field when possible to avoid loudest construction noise, but this EIR analysis conservatively does not assume this will occur. Construction noise levels at the closest façade of the Mid-Peninsula High School classroom building would range from 66 to 80 dBA L_{eq} during Phase 1 of construction, and from 60 to 78 dBA L_{eq} during Phase 2 of construction, using the worst-case minimum distance from the closest edge of the construction zone to the closest façade of the classroom building. These potential construction noise levels range up to 13 dBA over ambient. Thus, construction noise levels during Phase 1 and Phase 2, during the 10% of the construction schedule when equipment is operating along the construction zone boundary closest to the high school, would exceed the 10 dBA L_{eq} over ambient significance threshold for temporary construction noise at the sports field and at the classroom building resulting in a **potentially significant** impact. Construction noise levels at the field and building would be less than 10 dBA L_{eq} over ambient during the remainder of time based on the acoustic center and thus the impact would be **less-than-significant**.

As also shown in Table 4.4-8, based on the worst-case minimum distance from the closest construction zone boundary to receptors 2 through 4, construction noise levels would range from 53 dBA to 64 dBA L_{eq} during Phase 1 of construction, and from 50 to 63 dBA L_{eq} during Phase 2 of construction. Even using the worst-case minimum distance, construction noise levels at receptors 2 through 4 would not be greater than 10 dBA L_{eq} over ambient. Thus, construction noise impacts on receptors 2 through 4 would be **less than significant**.

Construction equipment operations along the construction zone boundary closest to a given receptor (represented by the minimum distance worst-case) would be anticipated to occur no more than approximately 10% of the overall construction schedule. During the other 90% of the construction schedule, construction equipment would be operating at various points across the construction zone, at greater distances.

Table 4.4-9. Construction Noise Levels at Representative Receptor Locations Using Distance to Acoustic Center (Average Noise Levels Across Each Phase)

Receiver ¹		Construction Noise Level, L_{eq} dBA (increase over ambient), increase over threshold ²					
No.	Description ¹	Demolition	Site Prep.	Grading	Building Const.	Arch Coating	Paving
Phase 1							
1	Mid-Peninsula High School (AC Distance 206 feet) ³	69 (2), 0	65 (0), 0	70 (3), 0	66 (0), 0	58 (0), 0	62 (0), 0
2	Gateway Rising Residences (AC Distance 474 feet) ³	61 (0), 0	56 (0), 0	62 (0), 0	58 (0), 0	50 (0), 0	53 (0), 0
3	Sequoia Belle Haven Residences (AC Distance 645 feet) ³	58 (0), 0	53 (0), 0	59 (0), 0	55 (0), 0	47 (0), 0	50 (0), 0
4	Alberni Street Residences (AC Distance 490 feet) ³	61 (6), 1	56 (1), 0	61 (6), 1	57 (2), 0	49 (0), 0	53 (0), 0
Phase 2							
1	Mid-Peninsula High School (AC Distance 160 feet) ³	71 (4), 1	66 (0), 0	71 (4), 1	68 (1), 0	60 (0), 0	67 (0), 0
2	Gateway Rising Residences (AC Distance 465 feet) ³	60 (0), 0	55 (0), 0	60 (0), 0	57 (0), 0	50 (0), 0	56 (0), 0
3	Sequoia Belle Haven Residences (AC Distance 547 feet) ³	59 (0), 0	54 (0), 0	58 (0), 0	56 (0), 0	48 (0), 0	55 (0), 0

Table 4.4-9. Construction Noise Levels at Representative Receptor Locations Using Distance to Acoustic Center (Average Noise Levels Across Each Phase)

Receiver ¹		Construction Noise Level, L_{eq} dBA (increase over ambient), increase over threshold ²					
No.	Description ¹	Demolition	Site Prep.	Grading	Building Const.	Arch Coating	Paving
4	Alberni Street Residences (AC Distance 575 feet) ³	58 (3), 0	53 (0), 0	58 (3), 0	55 (0), 0	48 (0), 0	54 (0), 0

Source: Appendix K.

Notes:

dBA = A-weighted decibels; L_{eq} = equivalent hourly average noise level; AC = acoustic center.

¹ Receiver locations are shown on Figure 4.4-2.

² Compared to construction noise significance threshold of 85 dBA L_{eq} .

³ Approximate distance from acoustic center to either the classroom building or the sports field.

⁴ Approximate distance from the acoustic center to the given noise sensitive land use.

During most of the construction effort, equipment would be operated away from the edge of the construction zone boundary. Using the acoustic center distance to each receptor represents this spread of equipment across the entire site, and noise levels derived from the acoustic center of construction activity provide a better representation of average noise level exposure across the entire construction process for a given off-site receiver, compared to using the minimum distance worst-case method. As indicated in Table 4.4-9, Project construction activities evaluated using the acoustic center distance are predicted to generate average noise levels ranging from approximately 47 to 71 dBA L_{eq} at the nearest noise-sensitive receptors surrounding the Project site. Based on the acoustic center distance, predicted noise levels would range up to no more than 6 dBA L_{eq} over ambient. The Municipal Code provides an exception for construction activities performed between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday. The ConnectMenlo EIR found that construction noise effects would be less than significant when these construction hours are maintained and other typical construction noise control measures are implemented, as required under ConnectMenlo EIR MM NOISE-1b. However, while the majority of construction activities are anticipated to be performed during these exempt hours, it is unknown what construction activities may be necessary during non-exempt time periods. Noise levels generated during these non-exempt hours would be subject to the Menlo Park Municipal Code noise limit threshold of 60 dBA L_{eq} during the hours of 7:00 a.m. to 10:00 p.m. and the 50 dBA L_{eq} threshold during the hours of 10:00 p.m. to 7:00 a.m. Because the modeled construction noise levels would exceed the City of Menlo Park exterior noise level standards during non-exempt time periods, construction noise impacts would be **potentially significant**.

Mitigation Measures

Implementation of ConnectMenlo EIR MM NOISE-1c would help to ensure that construction activity associated with the Proposed Project would comply with the Menlo Park Municipal Code and regulations pertaining to construction noise. However, ConnectMenlo EIR MM NOISE-1c precludes any construction activity from occurring outside of daytime hours; and the Proposed Project may deviate from those hour restrictions, which could result in a potentially significant impact. ConnectMenlo EIR MM NOISE-1c is included below as MM 4.4a but has been modified to omit the daytime hour construction restriction. MM 4.4b is also required to ensure that construction activities would comply with the applicable construction noise requirements of the City. Specifically, construction occurring outside ordinary daytime construction

hours (i.e., 8:00 a.m. to 6:00 p.m. weekdays) would either not be allowed or implementation of noise control measures would be required to ensure that noise levels do not exceed the quantitative limits of 60 dBA L_{eq} between 7:00 a.m. and 10:00 p.m., and 50 dBA L_{eq} between 10:00 p.m. and 7:00 a.m. at the nearby noise-sensitive land uses during specified days and times.

Under MM 4.4b, the effectiveness of noise attenuation measures for any construction occurring outside ordinary daytime construction hours (i.e., 8:00 a.m. to 6:00 p.m. weekdays) shall be monitored by taking noise measurements at nearby noise-sensitive land uses during construction.

With implementation of MMs 4.4a (modified ConnectMenlo MM NOISE-1c) and 4.4b, Project construction would not be expected to violate relevant requirements related to construction noise in Menlo Park. Impacts related to construction noise would be **less than significant with mitigation**.

MM 4.4a **Minimizing Construction Noise.** The Project sponsor, or designated representative, shall minimize the exposure of nearby properties to excessive noise levels from construction related activity. Prior to issuance of each demolition, grading, and/or building permit, a note shall be provided on Project plans to indicate that during ongoing grading, demolition, and construction, the Project sponsor, or a designated representative, shall be responsible for requiring contractors to implement the following measures to limit construction related noise:

- All internal combustion engines on construction equipment and trucks shall be fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer.
- Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.
- Stockpiling shall be located as far as feasible from nearby noise-sensitive receptors.
- Unnecessary engine idling shall be limited to the extent feasible.
- The use of public address systems shall be limited.
- Construction traffic shall be limited to the haul routes established by the City of Menlo Park.

(Modified ConnectMenlo MM NOISE-1c)

MM 4.4b **Construction Noise Control Plan.** Prior to issuance of the first demolition and/or grading permit, the Project sponsor shall submit a noise control plan for construction at the Project site to the City for review and approval. The plan shall require compliance with Section 8.06 of the Menlo Park Municipal Code and include measures to ensure compliance with the 60 dBA L_{eq} limit during the hours of 7:00 a.m. to 8:00 a.m. and the 50 dBA L_{eq} limit during the hours of 10:00 p.m. to 7:00 a.m.

The noise control plan shall demonstrate that construction activities that occur on the Project site (including at the boundary closest to the nearest sensitive receptor as evaluated in the “worst case scenario” described in the EIR) shall not increase noise 10 dBA above ambient at the nearest sensitive receptor, or shall require that activities causing such increase be scheduled for times when the nearest sensitive receptor is not in use.

The plan shall specify the noise-reducing construction practices that will be employed to reduce noise from construction activities in Menlo Park and shall demonstrate that compliance with these standards will be achievable. Measures to reduce noise may include, but are not limited to, the following:

- The noise control plan shall demonstrate that noise levels during construction on the Project site will meet the standards of this mitigation measure at sensitive receptors while those receptors are in use.
- The noise control plan shall demonstrate that any construction activities taking place outside of normal construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday shall comply with the 60 dBA L_{eq} limit during the hours of 7:00 a.m. to 8:00 a.m. and the 50 dBA L_{eq} limit during the hours of 10:00 p.m. to 7:00 a.m.
- The contractor shall ensure that construction equipment is equipped with mufflers. In addition, construction equipment must use the best available noise control techniques (e.g., improved mufflers, intake silencers, ducts, engine enclosures, acoustically attenuating shields, shrouds) on equipment and trucks used for Project construction when working outside the normal construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday to ensure compliance with the Menlo Park Municipal Code and this mitigation measure.
- All construction activities shall be conducted only at an adequate distance, or otherwise shielded with sound barriers, as determined in the noise control plan, from noise-sensitive receptors when working outside the normal construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday to ensure compliance with the Menlo Park Municipal Code and this mitigation measure.
- Temporary noise barriers (height to be determined) shall be installed around construction on the Project site to reduce construction noise from equipment used outside the normal construction hours of 8:00 a.m. to 6:00 p.m. on weekdays. The installation of barriers would help reduce overall construction noise to less than 50 dBA L_{eq} for work occurring between 6:00 a.m. and 7:00 a.m. and 60 dBA L_{eq} for work occurring between 7:00 a.m. and 8:00 a.m., as measured at the applicable property lines of the adjacent uses. However, confirmation of the noise reduction would be required (per the last bullet of this measure, below). If the Project Sponsor can demonstrate, through an acoustical analysis, that construction noise would not exceed the allowable limits during non-exempt hours, as measured at the applicable property lines of the adjacent uses without barriers, then temporary noise barriers shall not be required.
- The effectiveness of noise attenuation measures shall be monitored by taking noise measurements at nearby noise-sensitive land uses during construction activities to ensure that the Project complies with the 50 and 60 dBA L_{eq} standards, which apply outside the construction exception hours of 8:00 a.m. and 6:00 p.m. Monday through Friday. Construction noise level measurements shall be performed once at the start of each construction phase and performed thereafter as the City deems necessary in response to construction noise complaints received from nearby residential receivers and Mid-Peninsula High School.

Long-Term/Operational Noise

Traffic Noise

The topic of potential traffic noise effects was discussed in the ConnectMenlo EIR as Impact NOISE-3. It was determined that implementation of ConnectMenlo would not result in a substantial permanent increase in ambient noise on any of the identified roadway segments. No MMs were recommended.

The Proposed Project would generate additional vehicle trips on local roadways in the vicinity of the Project (e.g., Willow Road, O'Brien Drive, and University Avenue), which could result in increased traffic noise levels at noise-sensitive land uses adjacent to area roadways. Noise levels created by vehicular traffic on the local roadway network were evaluated under year 2027 no Project and plus Project, and year 2040 (cumulative) no Project and plus Project scenarios. Traffic volumes and the distribution of those volumes were obtained from the Transportation Impact Analysis prepared for the Project (Appendix M1). Average vehicle speeds on local area roadways were assumed to be consistent with posted speed limits and remain as such with or without implementation of the Proposed Project.

Table 4.4-10 summarizes modeled CNEL traffic noise levels for the year 2027 no Project and plus Project, and year 2040 (cumulative) no Project and plus Project scenarios, at receiver locations representing noise-sensitive land-uses adjacent to roadway segments in the Project vicinity. The table also presents the largest relative traffic noise level increase (net change) resulting from Project operations, which was determined by comparing the year 2027 no Project to 2027 plus Project levels, and by comparing the year 2040 (cumulative) no Project to year 2040 plus Project scenarios levels. Actual traffic noise exposure levels at noise-sensitive receptors in the Project vicinity would vary depending on a combination of factors such as variations in daily traffic volumes, relative distances between sources and receiver locations, shielding provided by existing and proposed structures, and meteorological conditions. Refer to Appendix K for modeling inputs and results.

Table 4.4-10. Modeled No Project and Plus Project Traffic Noise Levels

Receiver		Traffic Noise Level, CNEL dBA ^a					Project Impact?
No.	Description	Year 2027	2027 Plus Project	Year 2040	2040 Plus Project	Largest Project Related Change	
Segment 1	Willow Road - Hamilton to Ivy	60.9	61.0	61.0	61.1	0.1	No
Segment 2	Willow Road - Ivy to O'Brien	60.8	60.9	61.0	61.1	0.1	No
Segment 3	Willow Road - O'Brien to Newbridge	62.9	63.0	63.1	63.1	0.1	No
Segment 4	Willow Road - Newbridge to US Highway 101	64.0	64.1	64.4	64.5	0.1	No
Segment 5	O'Brien Drive - Willow Rd. to Kavanaugh	59.9	59.9	60.7	60.7	0	No

Table 4.4-10. Modeled No Project and Plus Project Traffic Noise Levels

Receiver		Traffic Noise Level, CNEL dBA ^a					Project Impact?
No.	Description	Year 2027	2027 Plus Project	Year 2040	2040 Plus Project	Largest Project Related Change	
Segment 6	University Avenue – O'Brien to Kavanaugh	61.7	61.8	63.1	63.2	0.1	No

Source: Appendix K.

Notes: dBA = A-weighted decibels; L_{dn} = Day/Night average noise level

a Traffic noise levels are predicted at prediction receiver locations representing the distance to the outdoor activity areas and building facades of noise-sensitive land uses adjacent to major roadway segments in the Project vicinity.

With respect to Table 4.4-10, an incremental increase in ambient noise levels would be considered significant if the Project were to result in an increase of 5 dB for areas with existing ambient levels lower than 60 dBA CNEL, an increase of 3 dB for existing ambient levels between 60 and 65 dBA CNEL, and an increase of 1.5 dB for existing ambient levels greater than 70 dBA CNEL, when comparing “no Project” to “plus Project” scenarios. As presented in Table 4.4-10, the comparison of year 2027 no Project to 2027 plus Project, and year 2040 (cumulative) no Project to year 2040 plus Project scenarios, concludes that traffic noise level increases attributable to the Project would be no greater than 0.1 dBA CNEL, which is well below the level of change that can be detected by the human ear. Therefore, the increases in traffic noise levels that would be caused by the Proposed Project would result in a **less-than-significant** impact.

In addition, the results presented in Table 4.4-10- indicate that traffic noise exposure levels for residential uses along roadways to which the Project would contribute trips are anticipated to remain below 65 dBA CNEL even under Year 2040 (cumulative) plus Project conditions. As such, residences along these roadways would continue to fall within the “normally acceptable” range of exterior community noise level exposure for residential land uses.

Mitigation Measures

No MMs are required.

Parking Structure and Surface Parking

The Proposed Project includes a seven-level above ground parking structure in the north-central portion of the Project site and a 17-space surface parking lot at the southeast corner of the site. The parking structure will have an ingress/egress point on the western façade accessed via driveways connecting to O'Brien Drive and Willow Road, and a second ingress/egress point on the southern façade accessed via a driveway connecting to O'Brien Drive. The surface parking lot will have a separate access drive also connecting to O'Brien Drive. The parking structure complies with building code requirements for “open ventilation” and as such no mechanical equipment is required or proposed for ensuring fresh air circulation within the garage structure (Appendix H).

Empirical sound level emission data for enclosed parking garages similar to the proposed parking structure indicates that traffic noise associated with the proposed parking areas would not be of sufficient level or occurrence to exceed community noise standards based on a time-averaged scale such as CNEL or L_{eq}.

This is attributable to the sporadic and instantaneous nature of sound levels generated by a car door slamming, an engine starting up, car pass-bys or tires squealing near the parking garage ingress and egress point. These noise sources associated with parking activities are short-term or instantaneous rather than steady noise levels and include sample L_{max} value ranges at a distance of 50 feet as follows: door slamming (60–70 dBA); engine ignition (60–70 dBA); and car pass-bys (55–70 dBA) (Mestre Greve Associates 2011). While audible under certain conditions near the entrances, their contribution to the outdoor ambient sound environment would be akin to similar infrequent noises produced by vehicles starting up or parking on nearby streets. Moreover, with the accesses to the parking structure located on the western façade and southern facade, and surface parking spaces in the southeast corner of the site (furthest away from the adjacent high school and residences across Willow Road) parking maneuver sound levels would not affect nearby noise-sensitive receptors.

Mitigation Measures

No MMs are required.

Building Mechanical, Heating, Ventilation, and Air Conditioning

According to the mechanical equipment specifications provided by the Project architect, the building at 1005 O'Brien Drive would include two cooling towers (sound power rating of 90 dBA, apiece), two air handling units (sound power rating of 102 dBA, apiece), two exhaust fans (sound power rating of 76 dBA, apiece), and two heat pumps (sound power rating of 74 dBA, apiece). This equipment would be mounted on the building rooftop, shielded by a 14-foot-tall roof screen (Appendix H). Additionally, the building at 1320 Willow Road would include one cooling tower (sound power rating of 90 dBA), two air handling units (sound power rating of 102 dBA, apiece), two exhaust fans (sound power rating of 76 dBA, apiece), and one heat pump (sound power rating of 74 dBA, apiece). This equipment would be mounted on the building rooftop, shielded by a 17-foot-tall wall section on the western, southern, and eastern sides, and by a roof screen of approximately 10 feet 8 inches on the north side facing the Mid-Peninsula High School (Appendix H).

Menlo Park Municipal Code Section 16.08.095 requires that roof-mounted mechanical equipment must not exceed a threshold of 50 dBA L_{eq} at a distance of 50 feet. This standard is applied as a simple horizontal distance, regardless of the elevation of the equipment mounting above ground level. Vibrasure Acoustical Engineers performed an analysis of rooftop equipment noise levels at 50 feet, based upon equipment location details and screen wall heights indicated in the plan set (Appendix K). Table 4.4-11 provides the results of the Vibrasure evaluation.

Table 4.4 -11. Calculated Noise Levels at 50 Feet From HVAC Equipment

Equipment	1005 O'Brien Drive ¹	1320 Willow Road ¹
	Sound Level dBA L_{eq}	
Air Handling Unit 1	50	41
Air Handling Unit 2	50	44
Cooling Tower(s)	45	39
Exhaust Fans ²	44	37
Heat Pump(s)	42	42

Table 4.4 -11. Calculated Noise Levels at 50 Feet From HVAC Equipment

Equipment	1005 O'Brien Drive ¹	1320 Willow Road ¹
	Sound Level dBA L _{eq}	
Composite – All Equipment	54	48

Source: Appendix K.

Notes:

¹ This noise level includes both distance attenuation and barrier losses from roof screen.

² Exhaust fans will serve all lab exhaust including the hoods.

According to the results presented in Table 4.4-11, each of the specified rooftop mechanical equipment would comply with the Menlo Park Municipal Code limit of 50 dBA L_{eq} at 50 feet. However, based on the logarithmic sum of the values for individual equipment to be installed at 1005 O'Brien Drive, the composite sound level for all the equipment would be 54 dBA L_{eq} at 50 feet, which would marginally exceed the 50 dBA L_{eq} limit. If the final design still shows the composite sound level exceeding 50 dBA, compliance with the Municipal Code will require further noise controls in the form of equipment selection with lower sound ratings and/or individual barriers around the loudest equipment confirmed prior to building permit issuance in order to ensure the roof-top equipment at 1005 O'Brien does not exceed the limit. (As compliance with Code requirements is assumed, a specific MM is not required.) The composite noise level for all equipment to be installed at 1320 Willow Road would be 48 dBA L_{eq} at 50 feet, which complies with the Municipal Code limit.

Regarding the effect on ambient noise levels, the adjacent high school building to the north is no closer than 150 feet from the proposed location of the 1320 Willow Road building, while the closest point of the sports field is approximately 90 feet. The composite sound level for all the equipment on the roof of 1320 Willow Road would be 48 dBA L_{eq} at 50 feet; assuming a standard point source attenuation rate of 6 dB per doubling of distance, equipment on 1320 Willow Road would have a noise level of approximately 38 dBA L_{eq} at the adjacent high school's classroom building and approximately 43 dBA at the sports field. The high school building is no closer than 500 feet from the proposed location of 1005 O'Brien Drive, while the sports field is no closer than 440 feet. The composite sound level for all the equipment on the roof of 1005 O'Brien Drive would be 54 dBA L_{eq} at 50 feet (while compliance with the 50 dBA L_{eq} Municipal Code limit is assumed, 54 dBA is used to provide a conservative analysis); assuming a standard point source attenuation rate of 6 dB per doubling of distance, equipment on 1005 O'Brien Drive would have a noise level of approximately 34 dBA L_{eq} at the adjacent high school building and 35 dBA L_{eq} at the closest point of the sports field. Adding the sound levels from both Project buildings together, the Project equipment noise levels at the adjacent high school building would be approximately 39 dBA L_{eq} and at the closest point of the sports field they would be approximately 44 dBA L_{eq}. This sound level would remain approximately 20 dBA L_{eq} below the ambient level of 67 dBA L_{eq} at the school. Project operational noise impacts at the school would therefore be **less than significant**.

The closest existing residences are no closer than 250 feet from the proposed location of the building at 1320 Willow Road. Given a composite sound level for all the equipment on the roof of 1320 Willow Road of 48 dBA L_{eq} at 50 feet, equipment on 1320 Willow Road would have a noise level of approximately 34 dBA L_{eq} at the property line of the closest residences on Willow Road. These residences are no closer than 675 feet from the proposed location of the 1005 O'Brien Drive building. Given a composite sound level for all the equipment on the roof of 1005 O'Brien Drive of 54 dBA L_{eq} at 50 feet (to provide a conservative analysis without factoring in required changes to meet the 50 dBA limit), equipment on 1005 O'Brien Drive

would have a noise level of approximately 31 dBA L_{eq} at the closest residences on Willow Road. Adding these two sound levels together, the Project equipment noise levels at the closest residences on Willow Road would be approximately 37 dBA L_{eq} . This sound level would remain approximately 30 dBA L_{eq} below the ambient level of 71 dBA L_{eq} at the multi-family residences on Willow Road. These noise levels would also comply with the most stringent (nighttime) Municipal Code residential limit of 50 dBA L_{eq} . The Project operational noise impacts at the closest residential properties would therefore also be **less than significant**.

Mitigation Measures

No MMs are required.

Emergency Generators

An emergency electric power generator is proposed for each of the two Project buildings. The make and model of the generator is not known at this time, so this analysis is based on noise levels from a representative generator of a size/capacity specified for a research office building like those of the Project. As a result, this analysis uses the published sound source level for a Generac SD1500 generator to base noise calculations. The Generac SD1500 is a 1,500 kw generator, with a tested sound level of approximately 98.3 dBA at 7 meters (23 feet). This sound generation level is for the generator with no enclosure. Generac also offers a Level 2 acoustic enclosure for this generator, which reduces the sound level to approximately 78.8 dBA at 23 feet. Standard acoustic calculations were performed to estimate noise from the Project generators at the closest noise-sensitive receivers, based on the distances from generator installation locations identified on the Project site plans and the published sound level for the generator with no enclosure.

The proposed generator location for 1005 O'Brien is adjacent to the east end of 965 O'Brien; the proposed generator location for 1320 Willow Road is immediately adjacent to the southern façade of this building. Given the proposed generator locations and Project building configurations, Project buildings would shield generator noise for receivers to the north and northwest, including Mid-Peninsula High School and Gateway Rising Residences. On-site buildings would be expected to attenuate generator noise at these receivers to less than 60 dBA (the daytime allowable limit). Calculations were therefore not performed for generator noise levels at these receivers.

Generator sound levels at receivers to the west and south of the Project site could be attenuated by some degree by the presence of Project buildings and existing structures on adjacent parcels. However, since some direct pathways for sound travel would exist, attenuation effects of existing buildings were not included in the calculation of generator sound levels at the closest receivers to the west and south. Table 4-4.12 provides the results of the generator noise level calculations.

Table 4.4 -12. Calculated Generator Noise Levels at Nearby Receivers

Generator Source	Sequoia Belle Haven Residences	Alberni Street Residences
	Sound Level dBA L_{eq} ¹	
1005 O'Brien Street	73.3	72.7
1320 Willow Road	71.9	71.8

Table 4.4 -12. Calculated Generator Noise Levels at Nearby Receivers

Generator Source	Sequoia Belle Haven Residences	Alberni Street Residences
	Sound Level dBA L_{eq} ¹	
Composite – Both Generators	76	75

Source: Appendix K.

Notes:

¹ This noise level is based upon a generator with no enclosure and distance attenuation only.

As illustrated in Table 4.4-12, estimated generator noise levels at the closest receivers to the west and south would substantially exceed the allowable noise levels in Menlo Park (i.e., 60 dBA during daytime hours [7:00 a.m. to 10:00 p.m.] and 50 dBA during nighttime hours [10:00 p.m. to 7:00 a.m.]). In addition, the generator with no enclosure would have a noise generation level of approximately 92 dBA at 50 feet, which would exceed the limit of 85 dBA at 50 feet threshold for powered equipment used on a temporary, occasional, or infrequent basis. Because noise from generator testing could exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from generator testing would be considered **significant**, and mitigation would be required.

Regarding the Generac SD1500 model, a supplied Level 2 Acoustic Enclosure would reduce sound levels to approximately 78.8 dBA at 23 feet (or 72 dBA at 50 feet). Therefore, as an example, the Generac SD1500 generator with Level 2 Acoustic Enclosure would satisfy the 85 dBA at 50 feet standard for Menlo Park, for powered equipment used on a temporary, occasional, or infrequent basis. Table 4.4-13 presents the results of generator noise level calculations, if the Level 2 Acoustic Enclosure is used for the representative Generac SD1500 model.

Table 4.4 -13. Calculated Generator Noise Levels at Nearby Receivers - Mitigated

Generator Source	Sequoia Belle Haven Residences	Alberni Street Residences
	Sound Level dBA L_{eq} ¹	
1005 O'Brien Street	53.8	53.2
1320 Willow Road	52.4	52.3
Composite – Both Generators	56	56

Source: Appendix K.

Notes:

¹ This noise level is based upon a generator with level 2 acoustic enclosure and distance attenuation.

As illustrated in Table 4.4-13, mitigated generator noise levels (i.e., inclusion of the Level 2 Acoustic Enclosure) at the closest receivers to the west and south would be reduced to within allowable daytime noise levels in Menlo Park (i.e., 60 dBA during daytime hours [7:00 a.m. to 10:00 p.m.]). MM 4.4c limits generator testing to daytime hours, so there is no issue regarding compliance with the 50 dBA nighttime limit (10:00 p.m. to 7:00 a.m.).

Mitigation Measures

MM 4.4c requires preparation of an emergency generator noise reduction plan that includes effective attenuation features. MM NOISE-1b from the ConnectMenlo EIR in combination with Project-specific MM 4.4c would ensure that noise from emergency generator testing would be in compliance with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, noise impacts from Project emergency generator testing would be **less than significant with mitigation**.

ConnectMenlo EIR MM NOISE-1b *Stationary Noise Sources*. Stationary noise sources and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.

MM 4.4c *Emergency Generator Noise Reduction Plan*. Prior to approval of a building permit, the Project sponsor shall conduct a noise analysis to estimate noise levels from testing the Project-specific emergency generators, based on the actual generator make and model proposed and the actual selected attenuation features. Based on the results of the analysis, if generator noise is expected to exceed allowable noise limits, a noise reduction plan shall be created to ensure that noise from generator testing will be below the applicable code requirements. The results, methods, and final noise reduction plan shall be provided to the City prior to the issuance of building permits. The analysis shall account for proposed noise attenuation features, such as acoustical enclosures and mufflers or silencers, and the final noise reduction plan shall demonstrate with reasonable certainty that noise from the proposed generator will not exceed the City noise thresholds of 60 dBA at the nearest noise-sensitive use during daytime hours and/or 85 dBA at 50 feet for powered equipment, whichever is lower. Acoustical treatments may include, but are not limited to:

- Enclosing the generator,
- Installing a relatively quiet model of generator,
- Orienting or shielding the generator to protect noise-sensitive receptors to the greatest extent feasible,
- Installing exhaust mufflers or silencers,
- Increasing the distance between generator and noise-sensitive receptors, and/or
- Placing barriers around generator to facilitate the attenuation of noise.

The Project generator shall be tested only between the hours of 8:00 a.m. and 5:00 p.m. Because no nighttime testing of generators will be allowed, compliance with the 50 dBA nighttime noise threshold of the City need not be demonstrated. The Project sponsor shall incorporate adequate recommendations from the acoustical analysis into building designs and operations to ensure that noise sources meet applicable requirements of the noise ordinance.

Impact 4.4-2

Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activities on the Project site may result in varying degrees of temporary groundborne vibration or noise, depending on the specific construction equipment used and operations involved. Representative groundborne vibration levels for various types of construction equipment, developed by FTA, are summarized in Table 4.4-14. As previously mentioned, pile driving and blasting are not currently expected to be utilized in Project construction. Where more substantial shoring and foundation is necessary, displacement auger cast piles are anticipated.

The topic of construction vibration was analyzed in the ConnectMenlo EIR as Impact NOISE-2. The impact was determined to be potentially significant and would be reduced to a less-than-significant level with implementation of MMs NOISE-2a and NOISE-2b. Consistent with ConnectMenlo EIR MM NOISE-2a, this impact discussion presents the results of a Project-specific vibration analysis. Further, this analysis demonstrates that vibration levels associated with Project construction would remain below the vibration thresholds established in ConnectMenlo EIR MM NOISE-2a. Specifically, MM NOISE-2a requires that vibration levels must be limited to a maximum PPV of 0.2 in/sec at existing structures adjacent to the Project construction zone and to the following RMS thresholds for specific types of sensitive receptors: 0.126 in/sec at the nearest workshop, 0.063 in/sec at the nearest office, and 0.032 in/sec at the nearest residence during daytime hours and 0.016 in/sec at the nearest residence during nighttime hours. Additionally, ConnectMenlo EIR MM NOISE-2b requires the City to ensure through the Project approval process that projects implement best management practices to minimize vibration. The analysis concluded that, overall, vibration impacts related to construction would be short term, temporary, and generally restricted to areas in the immediate vicinity of construction activity. Table 4.4-15 identifies the RMS based thresholds from ConnectMenlo EIR MM NOISE-2a and includes the conversion of the thresholds to PPV units.

Table 4.4-14. Groundborne Vibration Thresholds

Location to be Applied	Vibration Threshold, in/sec	
	PPV	RMS
Nearest Structure (Architectural Damage)	0.2	—
Workshop (Annoyance)	0.17	0.126
Office (Annoyance)	0.089	0.063
Residence – Daytime (Annoyance)	0.045	0.032
Residence – Nighttime (Annoyance)	0.023	0.016

Source: City of Menlo Park 2016b.

Table 4.4-15. Representative Vibration Levels for Construction Equipment

Equipment	in/sec PPV ¹				
	25 feet ²	20 feet	15 feet	13 feet	8 feet
Hoe Ram	0.089	0.124	0.191	0.237	0.492
Large Bulldozer	0.089	0.124	0.191	0.237	0.492
Caisson Drilling	0.089	0.124	0.191	0.237	0.492

Table 4.4-15. Representative Vibration Levels for Construction Equipment

Equipment	in/sec PPV ¹				
	25 feet ²	20 feet	15 feet	13 feet	8 feet
Heavy-duty Trucks (Loaded)	0.076	0.106	0.164	0.203	0.420
Jackhammer	0.035	0.049	0.075	0.093	0.193
Small Bulldozer	0.003	0.004	0.006	0.008	0.017

Source: FTA 2018.

Notes:

¹ PPV = peak particle velocity.

² Vibration levels can be approximated at other locations and distances using the above 25-foot reference levels and the following equation: $PPV_{equip} = PPV_{ref} (25/D)^{1.5}$ (in/sec); where “PPV ref” is the given value in the above table, “D” is the distance for the equipment to the new receiver in feet.

As shown in 4.4-115 heavier pieces of typical construction equipment, such as a bulldozer, have been documented to generate peak particle velocities of approximately 0.089 in/sec PPV or less at a reference distance of 25 feet (FTA 2018). The ConnectMenlo EIR MM NOISE-2a structure damage threshold distances were calculated based on these propagation characteristics and the FTA and Caltrans propagation formulas. As can be seen in Table 4.4-15, architectural damage would not be anticipated unless the machinery was operating at distances less than 15 feet from a nearby structure. Existing off-site structures are no closer than 55 feet to Project construction activities, and therefore construction vibration would not result in architectural damage to off-site structures.

An existing building at 985 O'Brien Drive would be demolished to make space for the proposed 1005 O'Brien Drive structure. 985 O'Brien Drive is physically connected to 965 O'Brien Drive, the latter of which is proposed to be preserved. Similarly, the eastern half of 1320 Willow Road would be demolished in Phase 1 to accommodate construction of the new parking structure, the western half of the 1320 Willow Road building would continue to be occupied by a warehouse use during Phase 1. Use of heavy equipment to demolish 985 O'Brien Drive and the eastern half of 1320 Willow Road could occur within 15 feet of 965 O'Brien Drive and 1320 Willow Road, resulting in vibration levels exceeding 0.2 in/sec PPV at 965 O'Brien Drive and 1320 Willow Road. Thus, the Project would have a **potentially significant** impact related to potential architectural damage due to groundborne vibration during construction.

The ConnectMenlo EIR MM NOISE-2a annoyance thresholds in RMS units were converted to PPV units (refer to Table 4.4-14) and then minimum separation distances to avoid triggering these annoyance thresholds were calculated for each piece of equipment based on FTA and Caltrans propagation formulas. The results of these distance calculations are presented in Table 4.4-16.

Table 4.4-16. Minimum Separation Distances to Avoid Vibration Annoyance by Construction Equipment and Receiver Type

Equipment	Feet		
	Workshop ¹ (0.17 in/sec PPV)	Office (0.089 in/sec PPV)	Residence (0.045 in/sec PPV ²)
Hoe Ram	17	25	40
Large Bulldozer	17	25	40
Caisson Drilling	17	25	40

Table 4.4-16. Minimum Separation Distances to Avoid Vibration Annoyance by Construction Equipment and Receiver Type

Equipment	Feet		
	Workshop ¹ (0.17 in/sec PPV)	Office (0.089 in/sec PPV)	Residence (0.045 in/sec PPV ²)
Heavy-duty Trucks (Loaded)	15	23	36
Jackhammer	9	14	22
Small Bulldozer	2	4	5

Source: FTA 2018.

Notes:

PPV = peak particle velocity

¹ There is not a specific vibration threshold for warehouse, so the workshop threshold is employed.

² Daytime residential threshold.

As shown in Table 4.4-16, significant vibration annoyance for a workshop use could be avoided by ensuring that construction equipment is operated not closer than 17 feet. The 1320 Willow Road warehouse, which would remain operational during Phase 1 construction, is classified as a workshop use for purposes of vibration effects. Since demolition and minor re-construction would involve the eastern half of 1320 Willow Road, warehouse workers could experience vibration-related annoyance. The western half of 1320 Willow Road is part of the Project (that will be redeveloped in Phase 2), so effects on its occupants are not considered “impacts” under CEQA; however, the City has an interest in protecting those occupants so mitigations would apply.

As also indicated in Table 4.4-16, significant vibration annoyance for an office use could be avoided by ensuring that construction equipment is operated not closer than 25 feet from the Mid-Peninsula High School classroom building (which could be considered an office-like use). Since the Mid-Peninsula classroom is located not closer than 85 feet from the construction zone boundary, classroom occupants would not experience significant vibration annoyance from Project construction. Finally, as shown in Table 4.4-16, significant vibration annoyance for residential occupants could be avoided by ensuring that construction equipment is operated not closer than 40 feet. There are no residences located closer than approximately 300 feet from Project construction zones, and therefore significant vibration annoyance for residential occupants would not be anticipated to result from Project construction. However, the Eternal Life Church occupies the building at 965 O’Brien (which adjoins the existing building at 985 O’Brien that is proposed to be demolished). There is not a separate vibration threshold for churches, but the office threshold would be appropriately applied to this church use given the typical weekday uses of the property and that church services are generally held outside of typical construction hours. Since demolition would involve the adjoining building at 985 O’Brien, church employees and worshippers could experience vibration-related annoyance. Thus, the Project would have a **potentially significant** impact related to vibration annoyance during construction.

ConnectMenlo EIR MM NOISE-2b serves to reduce long-term vibration impacts at existing or potential future sensitive uses through the application of best management practices. The Proposed Project is not located in the vicinity of vibration generating sources; nor does the Proposed Project incorporate long-term operation sources of groundborne vibration. Therefore, ConnectMenlo MM NOISE-2b is not applicable to the Proposed Project and the Project would have a **less-than-significant** impact related to long-term vibration.

Mitigation Measures

MM 4.4d requires preparation of a construction vibration control plan that either demonstrates that the maximum vibration levels will not exceed thresholds or prescribes alternative methods of demolition-related activities that would reduce vibration to below the thresholds. MM 4.4d would ensure that demolition vibration levels would be in compliance with the thresholds for vibration related architectural damage and for vibration annoyance established in the ConnectMenlo EIR. Therefore, impacts from vibration during construction would be **less than significant with mitigation**.

MM 4.4d Construction Vibration Control Plan. Prior to issuance of a demolition permit for Phase 1, the Project sponsor shall prepare a vibration analysis and control plan addressing demolition during Phase 1 to prevent vibration levels at 965 O'Brien Drive and at 1320 Willow Road #A that exceed 0.2 in/sec PPV at all times (to prevent architectural damage) and 0.17 in/sec PPV when the adjacent building is occupied (to prevent annoyance impacts). The analysis shall demonstrate the maximum vibration levels that would occur during demolition. If maximum levels would exceed these thresholds, then the plan shall prescribe alternative methods of demolition-related activities that would reduce vibration to below the thresholds, subject to review and approval by the Community Development Department.

Elements of the plan may include, but are not limited to:

- Use of alternative demolition methods such as saw cutting and disassembly within 15 feet of 965 O'Brien Drive or the western portion of 1320 Willow Road, as opposed to breaking with heavy machinery.
- Use of vibration and/or noise blankets.
- Working alternative times outside of hours the buildings would be occupied, consistent with the Construction Noise Control Plan in Mitigation Measure 4.4b, for work that may cause vibration annoyance impacts (subject to not causing architectural damage).
- Prohibition on driving tracked driving construction equipment greater than or equal to 80,000 lbs. within 15 feet of 965 O'Brien Drive or 1320 Willow Road, instead using equipment that can reach into the area from outside that radius (such as a crane or backhoe) or using smaller, rubber-tired equipment weighing less than 80,000 lbs. for activities closer than 15 feet.
- Use of vibration and/or noise monitors to ensure that vibration impacts do not exceed thresholds.

Cumulative Impacts

The analysis of cumulative noise impacts considers noise conditions within the Bayfront Area. The geographic area for consideration of cumulative noise impacts is limited because noise attenuates as distance from the noise source increases. The development scenario for the analysis of potential cumulative impacts associated with construction noise considers specific current and pending development projects in the immediate vicinity of the Project site because construction noise is a localized impact. The development scenario for the analysis of potential cumulative noise impacts associated with Project operation considers buildout of the ConnectMenlo General Plan Update.

Impact 4.4-3

Would the Project result in cumulatively considerable noise impacts?

Construction Noise

The nearest projects to the 1005 O'Brien Drive Project site that have the potential to be constructed concurrently with the Proposed Project are 1030 O'Brien Drive, 1025 O'Brien Drive, and 1350 Adams Court.

As discussed in Impact 4.4-1, most construction activities for the Proposed Project and the cumulative projects would occur during the exempt daytime hours of 8:00 a.m. to 6:00 p.m. Monday through Friday, and thus would not be subject to the daytime noise limitations set forth in Municipal Code Section 8.06.040(a). However, some Project construction activities could occur during weekday hours outside of the exempt daytime hours or on weekends.

Construction of individual projects that occurs during daytime hours could result in a 10 dB increase over the ambient noise level at nearby receptors before mitigation, and construction of multiple projects at one time could combine to expose a given receptor to greater noise levels than those that would be experienced from construction of one project alone. Similarly, construction of individual projects during non-exempt weekday hours and during weekends could exceed the allowable daytime (i.e., 7:00 a.m. to 10:00 p.m.) noise level of 60 dBA at nearby noise-sensitive land uses, the allowable nighttime (i.e., 10:00 p.m. to 7:00 a.m.) noise level of 50 dBA at nearby sensitive land uses, or the allowable threshold (10 dB increase over ambient). Thus, there is a **potentially significant** cumulative impact associated with construction noise. As discussed in Impact 4.4-1 and shown in Tables 4.4-8 and 4.4-9, construction of the Proposed Project could result in a noise level increase up to no more than approximately 6 dBA over ambient at residences along Alborni Street, located south of the Project site. While noise associated with Project construction could combine with construction noise from other nearby projects to result in noise level increases of 10 dB over ambient at other nearby sensitive receptors during daytime exempt hours as well as during non-exempt hours and could result in noise levels that exceed the City's standards, the Project's contribution to the cumulative construction noise impact would not be cumulatively considerable.

All projects would be required to implement ConnectMenlo EIR MM NOISE-1c to help ensure that construction activity complies with the Menlo Park Municipal Code and other City regulations pertaining to construction noise. ConnectMenlo EIR MM NOISE-1c is included in this EIR as MM 4.4a. As discussed in Impact 4.4-1, construction noise impacts for some projects (including the Proposed Project) may not be reduced to less-than-significant levels with implementation of this MM alone because there would be a potential for construction noise outside of the daytime exempt hours to exceed the City's thresholds and since the certification of the ConnectMenlo EIR, the City has adopted a new construction noise threshold which defines a significant impact as occurring if construction would generate noise levels at sensitive receptors that is 10 dBA or more over the existing ambient noise levels. Thus, the Proposed Project would also be required to implement MM 4.4b, which requires monitoring the effectiveness of noise attenuation measures and use of additional attenuation measures where necessary to ensure compliance with the City's thresholds. With implementation of both MMs 4.4a and 4.4b, construction noise levels associated with the Project would be in compliance with the allowable limits during both daytime and non-daytime hours. Therefore, implementation of MMs 4.4a and 4.4b as presented in Impact 4.4-1 would ensure that the Proposed Project would make a less than cumulatively considerable contribution to the potentially significant cumulative impact. No additional MMs are required.

Operational Noise

Buildout of the land uses anticipated under the ConnectMenlo General Plan Update would increase traffic in the Bayfront Area, which could result in increased traffic noise and exposure of sensitive receptors to unacceptable noise levels. The ConnectMenlo EIR found that there would be no roadway segments that would experience a substantial permanent increase in ambient noise levels and that General Plan Policies N-1.6 and N-1.9 and General Plan Programs N-1.B and N-1.C would reduce noise from vehicles at the source and to otherwise shield uses from excessive noise. The ConnectMenlo EIR concluded that industrial uses and existing and future residential uses would not be exposed to noise levels that exceed the City's land use compatibility criteria and cumulative transportation noise impacts would be less than significant. Thus, the ConnectMenlo EIR did not identify a significant cumulative operational noise impact to which the Project could contribute.

As shown in Table 4.4-10, the traffic generated by the Project would have no measurable effect on roadway noise levels at any of the monitoring locations under 2027 plus Project conditions compared to 2027 no Project, or under 2040 (cumulative) plus Project conditions compared to 2040 (cumulative) no Project. Thus, the Project would not create or contribute to any significant cumulative transportation noise impacts, consistent with the findings of the ConnectMenlo EIR.

Mitigation Measures

Construction Noise: As noted above, implementation of MMs 4.4a, 4.4b and 4.4c as presented in Impact 4.4-1 would ensure that the Proposed Project would make a less than cumulatively considerable contribution to the potentially significant cumulative impact. No additional MMs are required.

Operational Noise: No MMs are required.

Construction Vibration: As noted above, implementation of MM 4.4d as presented in Impact 4.4-2 would ensure that the Proposed Project would not have a Project-specific construction vibration impact and would also make a less than cumulatively considerable contribution to any potentially significant cumulative vibration impacts. No additional MMs are required.

4.4.5 References Cited

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SOURCE: Esri World Imagery

DUDEK



0 130 260
Feet

FIGURE 4.4-1

Ambient Noise Measurement Locations

1005 O'Brien Drive/1320 Willow Road Life Sciences/R&D Project

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FIGURE 4.4-2
Modeled Construction Noise Receiver Locations
 1005 O'Brien Drive/1320 Willow Road Life Sciences/R&D Project

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4.5 Population and Housing

This section describes the existing and projected population and housing conditions in the City of Menlo Park (City) and the changes to those conditions that would result from implementation of the 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project).

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR), in June 2023. None of the comment letters received in response to the NOP addressed population and housing. The NOP and the comments received in response to other topics are provided in Appendix G of this EIR.

The primary sources reviewed to prepare this section include the ConnectMenlo General Plan Update (City of Menlo Park 2016a), the City's current 2023–2031 Housing Element (City of Menlo Park 2023a), the ConnectMenlo General Plan Update EIR (City of Menlo Park 2016b), the City's Subsequent EIR (SEIR) for the Housing Element Update (City of Menlo Park 2023b), and the Housing Needs Assessment (HNA) for the 1005 O'Brien Drive and 1320 Willow Road Project, which is provided in Appendix L of this EIR and was prepared to meet the requirements of the 2017 City of East Palo Alto v. City of Menlo Park Settlement Agreement. Additional sources include data published by the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), California Department of Finance (DOF), and the U.S. Census Bureau.

4.5.1 Environmental Setting

The analysis in this section and the HNA considers the potential impacts of the Proposed Project in the context of the high-tech economy in the Bay Area region. Because the City is located at the southern end of San Mateo County, the Project region is defined as consisting of both San Mateo County and Santa Clara County, which is referred to in this section as the “two-county region.”

Much of the data relied upon in this section to define the environmental setting relative to population, housing, and employment is taken from the City's Housing Element Update (City of Menlo Park 2023a) and its associated SEIR (City of Menlo Park 2023b) and from Plan Bay Area 2050 (ABAG/MTC 2021a), which is the Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) for the San Francisco Bay Area. Plan Bay Area 2050 includes projections of the estimated growth in population, household, and employment by county and within superdistricts, which are subareas of the nine counties in the ABAG region. The City is included in the South San Mateo County superdistrict.

Employment

The Project site currently supports 90,631 square feet of office and warehouse space. At the time that the environmental analysis for the Project began, there were two tenants occupying a portion of the existing space. These two tenants are estimated to have approximately 54 workers, based on standard employment density factors or self-reporting by the tenant. In addition, it is estimated that the remaining existing building space could accommodate an additional 27 employees based on typical employment densities for R&D and mini-warehouse space. Thus, the existing space at the Project site is assumed to accommodate a total of 81 workers (Appendix L).

Data published by the State of California Employment Development Department (EDD), which compiles current and historical employment data for California counties and metropolitan areas, indicates that the largest employment sector in the San Francisco-Redwood City-South San Francisco Metropolitan Division (MD) (which includes all of San Mateo County) is the professional and business services sector, with approximately 304,000 jobs in 2023. Other key sectors, each of which employs between 116,000 and 152,000 people, include private education and health; government; trade transportation, and utilities; information; and leisure and hospitality. In addition, approximately 40,000 people were employed in the construction industry within the San Francisco-Redwood City-South San Francisco MD in 2023 (EDD 2024a).

There has been significant job growth in the City in recent years, primarily driven by the booming technology sector. Bioscience and service industries are also leading economic sectors in the region. Table 3-5 in the Housing Element Update SEIR shows that in 2015, there were approximately 30,900 jobs throughout the City, which increased to 43,691 jobs by 2021, and an additional 1,257 jobs were expected to be accommodated by development projects that had been approved but were not fully constructed at the time the Housing Element Update Draft SEIR was prepared. The Housing Element Update SEIR also projected that if full buildout of the General Plan occurs by 2040, the City would support 53,250 jobs, of which 39,950 would be located in the Bayfront area (City of Menlo Park 2023b). Based on U.S. Census data, the HNA found that the City had a 40% growth in employment from 29,900 jobs in the 2007-2011 period to 42,100 jobs in the 2017-2021 period. The City's employment growth rate more than doubled the employment growth rate in the two-county region, which had a 19% increase in employment over the same period. The employment growth rates far exceeded population growth and created substantial pressure on housing markets in the City and surrounding communities (Appendix L).

In the long-term, employment growth is expected to continue at all income levels of the San Francisco Bay Area. The ABAG projections for 2015 to 2050 show a steady increase in employment in the Bay Area with the addition of 1.4 million new jobs (ABAG/MTC 2021a); and the ConnectMenlo EIR forecast that new development in the Bayfront area under the ConnectMenlo General Plan Update could accommodate 5,500 new jobs (City of Menlo Park 2016b). However, in contrast there was a loss of 8,300 jobs (0.7%) in the counties of San Francisco and San Mateo between January 2023 and January 2024. This was comprised of decreases in the employment classes of information and professional and business services, which were partially offset by increases in the employment classes of private education, health services, and leisure and hospitality (EDD 2024a).

As of January 2024, the labor force within the City was 19,800 people and of those 19,200 were employed, resulting in an unemployment rate of 3.2%; County-wide the labor force was 443,400 people with 427,000 employed for an unemployment rate of 3.7% (EDD 2024b). Similarly, the 2023 annual unemployment rate for the San Francisco-Redwood City-South San Francisco Metropolitan Division (which includes the City) was 3.2% and for the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area was 3.6% (EDD 2024c).

Population

Within the context of CEQA, population typically refers to residents within a particular jurisdiction. The City is located in the southern portion of San Mateo County and is surrounded by the cities of Atherton, Redwood City, Woodside, East Palo Alto, and Palo Alto. DOF estimates that San Mateo County, including its 20 cities, had a population of 742,051 people as of January 2, 2022, which increased to 745,302 people as of

January 1, 2023, and then decreased 0.5% by January 1, 2024, to 741,565 people (DOF 2024a). Compared to 2010 when the County supported 718,451 residents (DOF 2011), the County's 2024 residential population reflects a 3.2% increase.

The two-county region has seen a higher rate of growth since 2010, with a 2022 population slightly greater than 2.3 million, in 934,000 households. Household size has decreased slightly in the region from 2.85 persons in 2010 to 2.78 persons in 2022 (Appendix L).

The ConnectMenlo EIR indicates that the City had a population of 32,896 with an average of 2.6 persons per household in 2014 (City of Menlo Park 2016b). In the Housing Element Update SEIR, the 2015 baseline population was increased to 32,900 people, which increased to 36,715 people in 2021, with an additional 3,723 people expected to be accommodated by development projects that had been approved but were not fully constructed at the time the Housing Element Update Draft SEIR was prepared. Further, the Housing Element Update SEIR projected that if full buildout of the General Plan (including the growth anticipated under the Housing Element Update) occurs by 2040, the City would support 63,810 people, 14,343 of which would be located within the Bayfront area (City of Menlo Park 2023b). The ConnectMenlo EIR states that the City experienced a population increase of 7% between 2000 and 2014, and that this growth was reflected in the City's increase in average household size rather than an increase in the total number of households.

Since adoption of the ConnectMenlo General Plan Update, redevelopment has occurred and is continuing to occur throughout the Bayfront Area and in the larger region, which has altered the population and housing conditions relative to the conditions that existed at the time that the ConnectMenlo EIR was prepared. DOF data provides an estimated population for the City in 2022 of 32,942 people, for 2023 of 32,943 people, and for 2024 of 33,140 people (DOF 2024a).

Housing

Housing within San Mateo County is generally dispersed amongst the 20 cities within the county. According to Plan Bay Area 2050, approximately 80,000 households were accounted for in South San Mateo County (which includes the City) in 2015 (ABAG/MTC 2021a).

More than half of the City's housing units are single-family detached homes. However, almost all the residential growth in the City and the region since 2010 has been in multifamily units in buildings of five or more units (Appendix L). DOF estimates that the City had 13,916 residences in 2022, 13,912 residences in 2023, and 14,161 residences in 2024 (DOF 2024b). Using the population data provided above, the City's average household size during these three years ranged from 2.34 to 2.37 persons per household. In addition, as of December 2022 there were 3,645 additional planned and proposed housing units in the City, of which 607 units were anticipated to be designated as below market rate. Most of the planned and proposed units are in multifamily developments of 100 or more units (City of Menlo Park 2023a). The City continues to process development applications that include housing units but the current projects under review and recently approved projects do not indicate substantial changes in housing development trends within the City.

In 2010, the City contained 13,085 housing units, with a 5.6% vacancy rate and an average household size of 2.53 people. By 2015, the City had added 95 housing units, for a total of 13,180, a vacancy rate of 6.5%, and an average household size of 2.65 people. In 2021, the City had a rental vacancy of 8.7%, which is

higher than the rest of San Mateo County and the greater Bay Area, while the ownership vacancy rate was 0.1% (City of Menlo Park 2023a).

Menlo Park Housing Element

State law requires all local governments to adopt a General Plan to guide development and operation of land uses throughout their jurisdiction. As discussed further in Section 4.5.2, Regulatory Framework, state law requires that the General Plan include a Housing Element to address the housing needs for the jurisdiction and requires that the Housing Element demonstrate there are sufficient potential housing sites to accommodate construction of new housing meeting the Regional Housing Needs Allocation (RHNA), which is a projection of the number of housing units at varying income levels needed to accommodate anticipated population growth. Housing Elements are updated every 8 years.

The City's 2015–2023 Housing Element identified a substantial concern regarding the high cost of housing in the City, resulting in people spending a large share of their monthly income on mortgage and rent payments and many people who work in Menlo Park having to live in other areas and commute long distances (City of Menlo Park 2014). The 2023–2031 Housing Element identifies that during the 2015-2023 cycle, new housing units constructed in the City greatly exceeded the RHNA dwelling unit target for the above moderate-income level with construction of 1,182 units compared to the target of 150 units, and nearly achieved the target for the very-low-income level with construction of 217 units compared to the target of 233 units. However, only 70.5% of the low-income level housing target was constructed (91 units constructed compared to a target of 129) and 15.4% of the moderate-income level housing target was constructed (22 units constructed compared to a target of 143) (City of Menlo Park 2023a).

The 2023–2031 Housing Element identifies the City's current RHNA target of constructing 2,946 units. The specific housing unit RHNA targets for each income level are shown in Table 4.5-1, Projected Housing Need.

Table 4.5-1. Projected Housing Need

Income Level	Housing Unit Target
Very low income (0% to 50% of the AMI)	740 units
Low income (51% to 80% of the AMI)	426 units
Moderate income (81% to 120% of the AMI)	496 units
Above moderate income (greater than 120% of AMI)	1,284 units
Total	2,946 units

Source: City of Menlo Park 2023a.

Housing Development Potential

The ConnectMenlo General Plan Update, adopted in 2016, enacted changes in the General Plan Land Use Element to establish the Bayfront Area, which includes the Project site, as the focus of future land use changes and new housing development potential. As described in the ConnectMenlo EIR, the land use element updates provided a development potential of 4,500 new residential units in the Bayfront (City of Menlo Park 2016b).

The 2023–2031 Housing Element increases the amount of land in the City with new housing development potential throughout the City, projecting 4,949 additional residential units in the City by 2040. The 2023–

2031 Housing Element identifies 69 housing opportunity sites located on 83 parcels. As noted above, it also identifies several residential and mixed-use development projects that were already approved or under review as of December 2022 (referred to as Pipeline Projects) which would also contribute to the City's attainment of the RHNA target. Most of the Pipeline Projects identified in the Draft 2023–2031 Housing Element are located within the Bayfront Area, consistent with the projections in the ConnectMenlo General Plan Update and EIR. Additional housing units accounted for in the Housing Element include a projection that 85 accessory dwelling units would be constructed, and 621 dwelling units would become available through other land use strategies identified in the Housing Element. Combining these units with the opportunity sites and pending projects, the Housing Element identifies the potential development of 30% more units than are identified under the RHNA, for a total of 7,185 units, of which 3,518 would be affordable. Thus, the Housing Element meets the 30% buffer above the RHNA target as recommended by the California Department of Housing and Community Development (HCD) (City of Menlo Park 2023a).

Jobs-Housing Balance

There are more jobs within the City and within the two-county region than there are residents. As reported in the HNA, the 2017-2021 American Community Survey data show that there are 2.57 jobs in the City for every working resident and 1.12 jobs per working resident in the two-county region, and that 14.2% of people who work in the City also live in the City. The imbalance between jobs and housing can be attributed to several factors including the supply of housing relative to the number of jobs and the high cost of housing, as well as a wide range of less tangible factors that influence individual people's and family's preferences in the neighborhoods and communities in which they choose to reside (Appendix L).

The jobs and housing imbalance results in high levels of people commuting into the City and the region. The City's Housing Element identifies housing affordability as a critical issue, which can limit employers' ability to hire workers, increases transportation network congestion and delay, lessens quality of life across a wide range of demographics, and can exacerbate homelessness (City of Menlo Park 2023a). Plan Bay Area 2050 identifies that commute distances throughout the region could be reduced by improving the jobs-to-housing ratio in individual communities because this would provide people with the opportunity to live near their jobs (ABAG/MTC 2021a).

Growth Projections

Plan Bay Area 2050 is a long-range plan created by ABAG and MTC in collaboration with Bay Area residents, partner agencies and nonprofit organizations. Plan Bay Area 2050 is the nine-county Bay Area's long-range plan for the key elements of housing, economic development, transportation, and environmental resilience.

Plan Bay Area 2050 includes growth projections for both household and employment growth for each of the nine participating counties. The population and growth projections for the region, which are based on pre-2020 Census and pre-pandemic conditions, show that the jobs-housing imbalance will persist in the Project region. Specifically, the Plan Bay Area 2050 Forecasting and Modeling Report indicates that South San Mateo County, which includes Menlo Park, will gain 26,000 additional households and 44,000 additional jobs between 2015 and 2050 while the two-county region will gain 581,000 households and 625,000 jobs over the same period, as shown in Table 4.5-2, Projected Household Growth. Thus, demand for both housing and workspaces is expected to remain high (ABAG/MTC 2021b, Appendix L).

Table 4.5-2. Projected Household Growth

Geographic Area	Number of Households			Percent Increase	Share of Regional Growth (percent)
	2015	2050	Growth		
South San Mateo (includes Atherton, Menlo Park, Redwood City, Woodside, East Palo Alto, Portola Valley, San Carlos)	80,000	106,000	26,000	32	2
San Mateo County	265,000	394,000	129,000	48	9
San Mateo and Santa Clara counties (two-county region)	888,000	1,469,000	581,000	65	43
Bay Area Region	2,677,000	4,043,000	1,367,000	51	100

Source: ABAG/MTC 2021b.

The DOF, which also provides regional and local growth projections, projects a San Mateo County population of 721,006 in 2030, 728,934 in 2040, 726,771 in 2050, and 716,861 in 2060 (DOF 2024c).

As shown in Table 4.5-3, Projected Employment Growth, the Plan Bay Area 2050 Forecasting and Modeling Report indicates that a 29% increase in the number of jobs is expected in the South San Mateo superdistrict as well as in San Mateo County overall between 2015 and 2050 and that a 35% increase in the number of jobs is expected to occur in the Bay Area region (ABAG/MTC 2021b).

Table 4.5-3. Projected Employment Growth

Geographic Area	Number of Jobs			Percent Increase	Share of Regional Growth (percent)
	2015	2050	Growth		
South San Mateo (includes Atherton, Menlo Park, Redwood City, Woodside, East Palo Alto, Portola Valley, San Carlos)	152,000	196,000	44,000	29	3
San Mateo County	392,000	507,000	115,000	29	8
San Mateo and Santa Clara counties (two-county region)	1,492,000	2,117,000	625,000	42	43
Bay Area Region	4,005,000	5,408,000	1,403,000	35	100

Source: ABAG/MTC 2021b.

4.5.2 Regulatory Framework

Federal Regulations

No federal requirements related to population or housing are applicable to the Proposed Project.

State Regulations

State Housing Element Law

Under the state's Housing Element law (California Government Code, Section 65580 et seq.), regional councils of government are required to identify a "fair share allocation" of the RHNA for each city and county. The RHNA, which is determined by HCD, identifies the number of housing units at varying income levels needed to accommodate anticipated population growth within each of those income levels. The RHNA is updated every 8 years.

The Housing Element law requires each city's and county's general plan housing element to include an inventory and analysis of sites within that jurisdiction that would be suitable for housing and would provide sufficient space to meet the jurisdiction's RHNA. HCD also recommends that the housing inventory identifies sufficient space to accommodate 30% more than the RHNA targets to increase the likelihood of attaining the RHNA targets. If the site inventory and analysis does not identify sufficient space to meet the RHNA, a housing element must include a program of actions to make such housing sites available, as required under California Government Code Section 65583. This is commonly accomplished through rezoning or modifying zoning regulations to increase the area where housing can be built. The ABAG Executive Board adopted the current Final RHNA Plan on December 16, 2021, and HCD approved ABAG's RHNA Plan on January 18, 2022 (ABAG 2022).

Sustainable Communities Strategy and Senate Bill 375

Senate Bill (SB) 375, adopted in 2008, requires preparation of an SCS as part of an area's RTP. Plan Bay Area 2050 is the RTP/SCS for the region. It was approved by MTC and ABAG in October 2021 and is discussed further under the Regional and Local Regulations subheading.

As required by SB 375, Plan Bay Area 2050 defines a transportation and land use/housing strategy for the San Francisco Bay Area region to address transportation mobility and accessibility needs, land development, and greenhouse gas emissions reduction requirements through 2050. SB 375 requires that the RHNA be consistent with the SCS and establishes an 8-year cycle for the RHNA. The 2014–2022 RHNA was incorporated into Plan Bay Area 2050.

Regional and Local Regulations

Association of Bay Area Governments

ABAG is the comprehensive planning agency for the San Francisco Bay region, which includes the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. ABAG primarily addresses regional land use, housing, environmental quality, and economic development. ABAG is responsible for taking the overall RHNA provided by the State and allocating the total housing need by

income level to each local land use agency within ABAG's jurisdiction, which includes nine counties and 101 cities and towns. Each local land use agency must then revise their general plan and zoning ordinance to ensure that land use and zoning designations as well as development standards would accommodate construction of the needed housing units.

ABAG produces growth forecasts that are informed by the general plans, zoning regulations, and growth management programs of local land use agencies and are relied upon by other regional agencies, including the MTC and the Bay Area Air District, to make project funding and regulatory decisions. For example, the ABAG projections are the basis for the regional Ozone Attainment Plan and the RTP, each of which is discussed in Section 4.1, Air Quality, and Section 4.6, Transportation, of this Draft EIR. The growth forecasts are produced on 4-year cycles.

The ABAG projections are also developed to reflect the impact of “smart growth” policies and incentives that could be used to shift development patterns from historical trends toward a better jobs-housing balance, increased preservation of open space, and greater development and redevelopment in urban core and transit-accessible areas throughout the ABAG region.

Plan Bay Area 2050: A Vision for the Future

This SCS was developed based on the Guiding Principles of advancing equity, increasing resilience, implementing a shared vision, and defining and implementing strategies for the future. A key focus in Plan Bay Area 2050 is understanding interrelated elements of housing, the economy, transportation, and the environment and implementing strategies to improve conditions throughout the Bay Area (ABAG/MTC 2021a).

Chapter 2 of Plan Bay Area 2050 addresses housing. It notes that the Bay Area currently has 2.5 million homes and will need new housing stock to accommodate the anticipated regional population of 10 million people by 2050. The plan recognizes that carefully planning the form and location of new housing will be critical in addressing housing affordability and access to job opportunities, which can contribute to reducing greenhouse gas emissions. It also notes that focusing on providing high quality affordable housing in locations that provide access to opportunity, such as well-resourced schools and well-maintained transit, will help achieve the stated Guiding Principles of advancing equity throughout the region and increasing the community's resilience to housing uncertainty (ABAG/MTC 2021a).

Chapter 3 of Plan Bay Area 2050 addresses the regional economy. It discusses the Bay Area's historic, recent, and projected economic trends; the diverse range of industries in the region; and the diverse labor force. It sets strategies and policies that will help guide community investments towards improving economic mobility; supporting a strengthening of existing social safety nets; balancing the locations of jobs and housing, including encouraging job development in areas that are well-served by transit, to lessen potential adverse effects such as long commute times; and otherwise improving equity and societal growth (ABAG/MTC 2021a).

Menlo Park General Plan

The City of Menlo Park General Plan includes goals, policies, and programs relevant to the environmental factors potentially affected by the proposed Project. Under the General Plan, the Project site is assigned

the Life Sciences land use designation. No residential uses are permitted within this designation. However, there are some General Plan policies that are relevant to consideration of the Proposed Project’s potential impacts associated with population and housing, as presented in the following Housing Element discussion.

Housing Element

All California cities and counties are required to include a Housing Element in their general plans that establishes housing objectives, policies, and programs that address community housing conditions and needs. As described above, the State Housing Element Law requires a city’s general plan to have a Housing Element, updated every eight years, that provides for a specified number of housing units based on the RHNA.

The City’s most recent Housing Element update was adopted in January 2023. It provides a framework for the City’s approach to addressing its housing needs for the 2023-2031 cycle, with the intent of enhancing “community life, character, and vitality through the provision of adequate housing opportunities for people at all income levels” (City of Menlo Park 2023a). Key issues that the Housing Element addresses include equity; diversity in population and housing types, including housing to address special needs of various population groups; quality of life; and housing affordability.

The majority of policies and programs identified in the Housing Element apply to residential development projects. The following two Housing Element policies are relevant to the proposed Project:

Policy H1.3: Local Funding for Affordable Housing. Seek ways to reduce housing costs for lower-income workers and people with special needs by developing ongoing local funding resources and continuing to utilize other local, State, and federal assistance to the fullest extent possible. The City will also maintain the Below Market Rate (BMR) housing program requirements for residential and nonresidential developments.

Policy H4.11: Inclusionary Housing Approach. Require residential developments involving five (5) or more units to provide very low-, low- and moderate-income housing units. In-lieu fees are allowed but not encouraged. The units provided through this policy are intended for permanent occupancy and must be deed-restricted, including, but not limited to, single-family housing, multifamily housing, condominiums, townhouses or land subdivisions. In addition, the City will require larger non-residential developments, as job generators, to participate in addressing housing needs in the community through the City’s commercial in-lieu fee requirements.

Land Use Element

The Land Use Element identifies that a key land use challenge in the City is the combined factors of “a lack of housing options (at all income levels) and traffic that at times seems unbelievable,” which have been driven by job growth in the City and region. In response, the Land Use Element goals call “for resolving the combined issue of traffic and jobs/housing balance.” Thus, one of the guiding principles for the General Plan identified in the Land Use Element is to achieve citywide equity, in part by ensuring that existing neighborhoods are protected from substantial adverse effects due to new development and these neighborhoods share the benefits of such development, which should include that there is access to

housing which complements local job opportunities and housing affordability is maintained such that displacement of current residents is limited (City of Menlo Park 2016a). The following policies within the Land Use Element of the City's General Plan are relevant to consideration of the proposed Project's potential impacts associated with population and housing:

Policy LU-4.1: Priority Commercial Development. Encourage emerging technology and entrepreneurship and prioritize commercial development that provides fiscal benefit to the City, local job opportunities, and/or goods or services needed by the community.

Policy LU-4.4: Community Amenities. Require mixed-use and nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the City, including education, transit, transportation, infrastructure, sustainability, neighborhood-serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.

Below Market Rate Housing Program

The City's Below-Market Rate (BMR) Housing Program (Menlo Park Municipal Code Chapters 15.36, 16.04, and 16.96) is intended to increase the supply of affordable housing in Menlo Park. As part of the program, qualifying non-residential development projects are required to contribute BMR housing in-lieu fees. Section 16.96.030(c) requires paying an in-lieu fee per square foot of net new gross floor area at the Project site (giving credit for the amount of space in existing buildings that would be replaced). The fee amount is adjusted annually on the first of July, and the actual fee payment for the Proposed Project would be determined at the time that building permits are issued. When first adopted, the fee for "Group A" uses (office/R&D) was \$11.89 per square foot; the fee through June 30, 2026 is \$22.75. The BMR Housing Program is administered under the BMR Housing Program Guidelines (BMR Guidelines), and the City is required to use the funds for development of new affordable housing in Menlo Park.

16.96.030 Commercial development projects.

- (a) **Applicability.** This section shall apply to conditional use permits, conditional development permits, planned development permits, subdivision approvals, architectural control approvals, variance approvals, and building permits for any commercial development project or the construction of such project or any portion thereof which includes any new square footage or any square footage that is converted from an exempt use to a non-exempt use or from a Group B (all other commercial/industrial uses) use to a Group A (office/R&D) use.
- (b) **Exemptions.** The following uses are exempt from this section:
 - (1) Private schools and churches;
 - (2) Public facilities;
 - (3) Commercial development projects of less than ten thousand (10,000) square feet;
 - (4) Projects that generate few or no employees.
- (c) **Requirements.** The developer shall mitigate the demand for affordable housing created by the commercial development project. The below market rate housing program guidelines provides various alternatives for mitigation. A commercial development project may be required to provide below market

rate housing on site (if allowed by the zoning district) or off site. If it is not feasible to provide below market rate housing units, the developer shall pay an in-lieu fee prior to issuance of a building permit as follows:

- (1) Group A use: Eleven dollars and eighty-nine cents (\$11.89) per square foot of new gross floor area;
- (2) Group B use: Six dollars and forty-eight cents (\$6.48) per square foot of new gross floor area.

The in-lieu fee shall be adjusted annually on the first of July, in accordance with the guidelines.

- (d) Review Process. As part of an application for a commercial development project, the developer shall submit a below market rate housing agreement. The agreement shall set forth the developer's plan to meet the requirements of this section. The agreement shall be reviewed by the housing commission and forwarded with a recommendation to the reviewing body (i.e., planning commission or city council) for the application request. The reviewing body shall act on the agreement prior to or concurrently with the action on the application request. No building permit or other land use authorization may be issued or approved unless the requirements of this section have been met. (Ord. 1045 § 2 (part), 2018; Ord. 927 § 1 (part), 2003; Ord. 905 § 2 (part), 2001).

4.5.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to population and housing are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Potential project-related impacts analyzed in this section account for population and housing that occur or have the potential to occur on the Project site. According to Appendix G of the CEQA Guidelines, a significant impact related to population and housing would occur if the Project would:

- A. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- B. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.
- C. Result in a cumulative population, employment, and housing impact.

4.5.4 Impacts and Mitigation Measures

Methodology

This evaluation of population, employment, and housing impacts is based on information obtained from review of available population, employment, and housing projections from the City Menlo Park, San Mateo County, ABAG, EDD, DOF, and other sources; the 1005 O'Brien Drive and 1320 Willow Road Project HNA (Appendix L) prepared by BAE Urban Economics; and review of applicable elements and policies from the City of Menlo Park ConnectMenlo General Plan (City of Menlo Park 2016a) and 2023-2031 Housing Element (City of Menlo Park 2023a).

The HNA is required under the terms of a 2017 settlement agreement between the cities of Menlo Park and East Palo Alto. It supports the analysis in this EIR by providing context for evaluation of the Project's

potential environmental effects associated with population and housing; it also provides additional information related to housing needs in the City for consideration by decision-makers during the entitlement process. Specific to the issues that must be evaluated in the entitlement process that are not considered to be environmental effects under CEQA, the HNA considers whether the Project could contribute to displacement of existing residents within East Palo Alto and the Belle Haven neighborhood of Menlo Park, which both have risk factors for displacement. Thus, that information can be found in Appendix L rather than in this section.

Project Impacts

Impact 4.5-1 Would the Project induce substantial unplanned population growth in an area, either directly or indirectly?

The Proposed Project would demolish a total of 90,631 square feet of existing office and warehouse space and construct a total of 228,398 square feet of new R&D space in the Bayfront Area of the City. Phase 1 of the Project would include demolition of 64,618 square feet and construction of 154,581 square feet while Phase 2 would include demolition of 26,013 square feet and construction of 73,817 square feet.

Although the Project would not result in onsite residential population increases because it would not construct any housing, the Project is expected to contribute a slight increase in local and regional housing demand through its direct, indirect, and induced job creation, as discussed in detail under the Operational subheading within this Impact analysis.

The Project is consistent with the land use and zoning designations for the Project site and associated development standards under the zoning ordinance, such as density and floor-area-ratio. The City's Life Sciences land use and zoning designations were applied to the Project site under the City's ConnectMenlo General Plan Update (City of Menlo Park 2016a). The ConnectMenlo EIR determined that (a) the increase in the amount of buildout authorized by the ConnectMenlo General Plan Update compared to the development already allowed by the General Plan, including the Project site and other properties under the Life Sciences land use designation, would result in an additional 11,570 residents and 5,500 new employees in the Bayfront Area beyond what was previously authorized in the General Plan; (b) the increase in the amount of buildout of the Bayfront Area under ConnectMenlo combined with development in the Bayfront Area already allowed by the General Plan would result in 14,150 new residents and 9,900 new jobs; and (c) the new growth citywide upon General Plan buildout under ConnectMenlo would be 17,450 residents and 22,350 jobs (City of Menlo Park 2016b).

Recognizing that ABAG's 2013 growth projections did not take into account this new Bayfront Area development, the ConnectMenlo EIR found a significant and unavoidable cumulative impact related to exceeding regional growth without adequate regional planning. Specifically, the ConnectMenlo EIR found that citywide growth including development in the Bayfront Area authorized by the ConnectMenlo General Plan Update would result in population and housing levels within the City that were not in alignment with ABAG's projections (City of Menlo Park 2016b).

However, the ConnectMenlo EIR anticipated that future ABAG projections would take into account the buildout authorized by ConnectMenlo, so that the City's growth would no longer contribute to exceedances of regional population projections in the cumulative scenario. The population growth projections reflected

in Plan Bay Area 2050 do incorporate the full buildout of ConnectMenlo, thus ongoing buildout of the General Plan and the associated population growth is now consistent with local and regional planning documents. The Housing Element Update SEIR identified that the Housing Element Update was prepared to “conform the City’s housing site availability with ABAG’s distribution of the regional housing need and State law” and thus ongoing growth in the City consistent with the ConnectMenlo General Plan Update and the Housing Element Update would not result in or make a considerable contribution to impacts associated with population and housing (City of Menlo Park 2023b).

Project Construction

As discussed in Chapter 3, Project Description, and Section 4.1, Air Quality, Project construction is expected to occur over a total of 36 months, although there may be a delay between the first 21 months of construction under Phase 1 and the start of the 15-month Phase 2 construction period. Given the nature and scale of the construction effort, the construction labor force for the Proposed Project is anticipated to come from existing workforce in the Bay Area, which includes approximately 40,000 residents within the San Francisco-Redwood City-South San Francisco MD (EDD 2024a). Although some would commute from outside the Bay Area, because of the temporary nature of construction, these workers would not be expected to relocate permanently. Thus, it is expected that Project construction would cause negligible, if any, population growth and associated effects on regional or local housing demand. Therefore, impacts related to indirect population growth during construction of the Proposed Project would be **less than significant**.

Project Operation

During Project operation, there are three primary pathways in which the Project would contribute to housing demand. First, new employees at the Project site are expected to be associated with new households within the City and the region, with a related increase in demand for housing at a variety of income levels and household sizes. In economic terms, this is considered a direct effect of the Project. Next, these new employees and households would also spend money locally and regionally, creating additional demand for workers in various industries at various earnings levels, which will in turn create additional demand for housing across a range of costs. These are considered the indirect Project effects. Third, the businesses that occupy the Project buildings will increase regional economic activity through their purchases of goods and services from other businesses, who will in turn also increase their purchases of goods and services; and workers in these secondary industries will also increase their household expenditures. This additional economic activity is considered the induced effect of the Project.

To identify how the Project may affect the local and regional housing market through these direct, indirect, and induced pathways, the HNA estimates the following:

- Anticipated changes in housing supply by income level based on data provided in the City’s Housing Element,
- Net direct change in worker housing demand due to the Project,
- Indirect and induced job impacts due to the Project and related regional worker housing demand, and
- Net effect on regional housing demand/supply.

Housing Demand

Based on an average of 400 square feet per employee, the Project could support approximately 570 employees, an increase of 489 from the employment capacity of the existing buildings, which is estimated to be 81 employees as discussed in Section 4.5.1 (Appendix L). This is considered to be a conservative estimate because the ConnectMenlo EIR assumed an employment rate of one employee for every 450 to 549 square feet for the Life Science District. The net increase of 489 employees at the Project site would represent approximately 9% of the 5,500 new employees within the Bayfront Area that the ConnectMenlo EIR assumed would be accommodated by new development authorized by the ConnectMenlo General Plan Update, and 5% of the 9,900 total new employees authorized by the General Plan plus ConnectMenlo. Additionally, the Project's construction of 228,398 square feet of R&D uses within the Life Sciences district would represent approximately 16% of the 1.4 million square feet of net new building space within the LS District authorized by ConnectMenlo, and 11% of the 2.1 million square feet of total new non-residential construction in the LS District authorized by the General Plan plus ConnectMenlo. To date the only approved new building space within the LS District is approximately 260,000 square feet under construction at 1350 Adams Court. Therefore, the Proposed Project would be consistent with and within the scope of the intensity of development anticipated under the ConnectMenlo General Plan Update process and would not result in direct employment growth beyond that already analyzed in the ConnectMenlo EIR (City of Menlo Park 2016a and 2016b).

The HNA finds that an additional 401 jobs would be indirectly generated or induced due to the economic activity of the households associated with direct employment in the Project. The total of 849 added direct, indirect, and induced jobs would correlate to a net increase of 461 households within the Project region (based on an average of 1.84 workers per household) (Appendix L, Table 18). As noted in Section 4.5.1, the regional average household size is 2.78 people (Appendix L) while the City's average household size in 2024 was 2.34 people. Based on these two averages, new households associated with the Project could accommodate between 1,077 and 1,282 people.

Of the direct employment jobs (i.e., those individuals employed by the businesses located in the Project site), approximately 67% of the associated households are estimated to have above-moderate incomes while approximately 47% of the households associated with the indirect and induced employment growth would be in the above-moderate income category (Appendix L, Table 18). Table 4.5-4, Net Housing Demand, shows the number of new households at each income category estimated to be generated by the Project through direct, indirect, and induced employment growth.

Table 4.5-4 Net Housing Demand

Income Level	Number of Households
Extremely Low	27
Very low	38
Low	74
Moderate	44
Above moderate	278
Total	461

Source: Appendix L.

Share of Housing Demand Within Menlo Park and East Palo Alto

The HNA notes that the analysis reflects regional economic activity because employees and households associated with the Project would be expected to spend money at businesses within the City as well as within the larger region, particularly within the two-county region, and some of the direct, indirect, and induced employees would be expected to reside in jurisdictions other than the City. Thus, a portion of the housing demand associated with indirect and induced employment growth may not be located within the City. The HNA uses data regarding the number of workers within the City that also live in the City, regional commute patterns, and assumptions of how much of the indirect and induced added economic activity would occur in the two cities versus the wider region to estimate the proportion of indirect and induced employees that would reside within the City and East Palo Alto. The HNA states that approximately 14.2% of the direct employees (those employed at the Project site) would be expected to live in the City and 3% would be expected to live in East Palo Alto. The HNA also uses two different scenarios (low baseline and high baseline) to evaluate the potential housing demand associated with indirect and induced job growth. Specifically, the baseline scenarios in the HNA indicate that between 1.0% and 14.2% of the indirect and induced employees would be expected to live in the City while between 0.9% and 3% of these indirect and induced workers would be expected to live in East Palo Alto. Further, the HNA evaluates a second scenario to provide a conservative perspective, which assumes that an additional 20% of the worker households under either the low or high baseline would choose to live in the City or East Palo Alto (Appendix L). The estimated number of new worker households residing in the City and in East Palo Alto and the number of those households that would be in the lower income brackets for the low and high baseline scenarios and for the 20% additional scenario evaluated in the HNA are presented in Table 4.5-5, Project Generated Housing Demand.

Table 4.5-5 Project Generated Housing Demand

Scenario and Location	Net New Households	Lower Income Households (City and East Palo Alto Total)			
		Extremely Low Income	Very Low Income	Low Income	Total Lower Income
Low Baseline					
Menlo Park	39	3	4	8	15
East Palo Alto	10				
Low Baseline Plus 20%					
Menlo Park	47	4	5	10	19
East Palo Alto	12				
High Baseline					
Menlo Park	66	5	7	13	25
East Palo Alto	14				
High Baseline Plus 20%					
Menlo Park	79	6	8	15	29
East Palo Alto	17				

Source: Appendix L.

Housing Supply

As discussed in Section 4.5.1, the City's 2023–2031 Housing Element identifies a target of constructing 7,185 housing units, which is 30% above the overall RHNA target for the City; and identifies that 3,518 of those units would be affordable. In addition to the 3,645 units already proposed or approved for development (as of December 2022), approximately 600 of which would be affordable, the Housing Element identifies 69 opportunity sites where additional units could be constructed, construction of accessory dwelling units, and development of units through other land use strategies (City of Menlo Park 2023a). The projected housing supply is more than sufficient to accommodate the new housing demand that would be generated by the Project. The Project would generate 139 households within the lower income brackets. As shown in Table 4.5-5, the total number of lower income households expected to be located within either the City or East Palo Alto ranges from 15 under the low baseline to 29 under the 20% above high baseline scenario. If all of these households were located in the City, they would consume between 5% and 11% of the very-low-income units and between 3% and 5% of the low-income units anticipated under the Housing Element (Appendix L).

Conclusion

The ConnectMenlo EIR considered the potential impacts associated with unplanned population growth due to buildout of the City under the ConnectMenlo General Plan Update. This included buildout of properties under the Life Sciences land use designation, such as the Project site. The Proposed Project is consistent with the Life Sciences land use designation and associated development standards under the zoning ordinance, such as density and floor-area-ratio.

The Project would result in a net increase in employment within the Project site of 489 employees. This would represent approximately 9% of the 5,500 new employees in the Bayfront Area that the ConnectMenlo EIR assumed would be accommodated by new development authorized by the ConnectMenlo General Plan Update, and 5% of the 9,900 total new employees authorized by the General Plan plus ConnectMenlo. Therefore, the Proposed Project would be consistent with and within the scope of the intensity of development considered by the ConnectMenlo process and would not result in direct employment growth beyond that already analyzed in the ConnectMenlo EIR.

In addition, the 489 net new jobs would represent an increase of 1.2% of existing jobs in the City and 0.03% of existing jobs in the two-county region. When the indirect and induced jobs are also considered, the increase in regional employment would be 0.06%. These increases are consistent with regional projections. It is expected that there will be approximately 8,302 new jobs within the City by 2040, predominantly located in the Bayfront Area (City of Menlo Park 2023b) and 1.4 million new jobs between 2015 and 2050 throughout the region (MTC/ABAG 2021a), with employment growth in San Mateo County of 29% (114,000 jobs) (City of Menlo Park 2023a).

Thus, the direct, indirect, and induced employment growth attributed to the Project and the associated increase in the number of households within the City and within the two-county region is considered to be consistent with population growth projections. The City's planned increases in housing supply, including housing at various levels of affordability, are sufficient to accommodate the direct, indirect, and induced household growth attributed to the Project. The Project would not create substantial amounts of unplanned growth or a demand for housing that would exceed City and ABAG projections. Further, the Project is expected to have a negligible impact on the regional housing market, jobs-housing balance, and

displacement pressures (Appendix L). Therefore, the Project would have a **less than significant** impact associated with unplanned population growth.

Mitigation Measures

No mitigation measures are required.

Impact 4.5-2 Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project proposes to demolish existing office and warehouse buildings within the Project site and construct two R&D buildings, associated parking and on-site open space, a portion of which would be publicly accessible. No housing currently exists within the Project site; therefore, no housing would be permanently removed through implementation of the Project and the Project would not directly displace any existing residents or housing.

Indirect displacement typically occurs when housing or neighborhood conditions force existing residents to move, or existing households feel that their move is involuntary. As discussed in Impact 4.5-1, planned increases in housing supply in the City, including housing at various levels of affordability, are sufficient to accommodate the direct, indirect, and induced household growth attributed to the Project. Thus, the Project would not create or substantially contribute to levels of housing demand that would cause housing or neighborhood conditions under which substantial numbers of people would be displaced.

This is consistent with the findings of the ConnectMenlo EIR and the Housing Element Update SEIR, which both found that buildout of the Bayfront Area under the ConnectMenlo General Plan update and the 6th Cycle Housing Element would not displace a substantial number of housing units or people and would not require construction of replacement housing elsewhere. This topic was analyzed in the ConnectMenlo EIR as Impact POP-2 and Impact POP-3 and analyzed in the Housing Element Update SEIR as Impact PH-2 and determined to be less than significant (City of Menlo Park 2016b and City of Menlo Park 2023b).

Thus, the Project would have **no impact** associated with displacement of substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere.

Mitigation Measures

No mitigation measures are required.

Cumulative Impacts

Impact 4.5-3 Would the Project result in a cumulative population, employment, and housing impact?

The cumulative setting for population, housing, and employment consists of the greater San Francisco Bay Area region, particularly the two-county region discussed in this section and the HNA, which includes the South San Mateo County superdistrict as defined in Plan Bay Area 2050. The cumulative outlook for population and employment growth in the two-county region and the Bay Area overall is summarized in Tables 4.5-2 and 4.5-3.

The Proposed Project would redevelop the Project site, replacing existing office and warehouse/storage buildings with office and R&D space, consistent with the land use and zoning designations applied to the Project site under the ConnectMenlo General Plan Update. As noted in Impact 4.5-1, the net increase of 489 employees at the Project site would represent approximately 9% of the 5,500 new employees within the Bayfront Area that the ConnectMenlo EIR assumed would be accommodated by new development authorized by the ConnectMenlo General Plan Update, and 5% of the 9,900 total new employees authorized by the General Plan plus ConnectMenlo. Additionally, the Project's construction of 228,398 square feet of R&D uses would represent approximately 16% of the 1.4 million square feet of net new R&D uses authorized by ConnectMenlo, and 11% of the 2.1 million square feet of total new non-residential construction in the LS District authorized by the General Plan plus ConnectMenlo. The Housing Element Update SEIR also projected that if full buildout of the General Plan occurs by 2040, the City would support 53,250 jobs, of which 39,950 would be located in the Bayfront area (City of Menlo Park 2023b). The Project's estimated direct employment growth would represent an increase of 1.16% relative to the 42,173 existing jobs in the City according to the U.S. Census American Community Survey data for 2017-2021 (Appendix L) and would comprise 1.22% of the projected 39,950 jobs within the Bayfront Area by 2040 (City of Menlo Park 2023b). The economic activity generated by the Project is expected to lead to indirect and induced growth, which is estimated to create 401 additional jobs, not all of which would be located within the City. These jobs would comprise less than 1% of the 114,000 new jobs expected in San Mateo County by 2050 (City of Menlo Park 2023a) and 0.06% of existing jobs in the two-county region (Appendix L). The City's planned increases in housing supply, including housing at various levels of affordability, are sufficient to accommodate the direct, indirect, and induced household growth attributed to the Project that would be expected to occur within the City.

As discussed in Impact 4.5-2, the Project site does not contain any residential uses and Project implementation would not result in an increase in the available housing stock within the city, consistent with contemplated growth identified in ConnectMenlo and Plan Bay Area 2050. The Project would not displace housing or people necessitating the construction of replacement housing elsewhere. Further, there is no significant cumulative impact associated with displacement of housing or people requiring construction of replacement housing. Both the ConnectMenlo EIR and the Housing Element Update SEIR found that impacts related to displacement of housing or people would be less than significant (City of Menlo Park 2016b and City of Menlo Park 2023b).

The ConnectMenlo EIR identified a significant and unavoidable impact related to population growth under the cumulative condition because at the time that the ConnectMenlo General Plan Update was adopted in 2016, the new development potential created by ConnectMenlo was not reflected in regional planning documents. However, as discussed throughout this section, ABAG and MTC prepared an updated RTP/SCS for the nine-county San Francisco Bay Area region. Plan Bay Area 2050, which was adopted in 2021, is based on the General Plans and other planning documents and initiatives of each of the local land use agencies within the region, including full buildout of ConnectMenlo. Thus, the growth projections in Plan Bay Area 2050 reflect the City's anticipated employment and population growth, including the growth expected to be associated with the Proposed Project. The Draft EIR for Plan Bay Area 2050 found that impacts associated with inducing unplanned growth would be less than significant because "the Plan accommodates forecasted growth through implementation of the Plan's land use strategies to intensify density in developed areas, rather than induces unplanned growth" (ABAG/MTC 2021c).

The Project would not create substantial amounts of unplanned growth or a demand for housing that would exceed City and ABAG projections. Further, the Project is expected to have a negligible impact on the regional housing market, jobs-housing balance, and displacement pressures. Because the Proposed Project is within the scope of development anticipated by ConnectMenlo and Plan Bay Area 2050, the Project would be consistent with previously contemplated and anticipated population, household, and employment growth within the city and greater Bay Area and growth resulting from Project implementation would not be cumulatively considerable. As such, when past, present, and foreseeable future projects are considered in addition to the Project, the Project would not result in or contribute to significant cumulative impacts related to population growth under the cumulative scenario and this impact would be **less than significant and less than cumulatively considerable**.

Mitigation Measures

No mitigation measures are required.

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4.6 Transportation

This section evaluates potential transportation and circulation impacts that could result from implementation of the proposed 1005 O'Brien Drive/1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project). Specifically, this section describes existing and future transportation and circulation characteristics within the study area, describes analysis methodologies and regulatory framework, identifies potential transportation impacts of the Proposed Project. Section 4.6.4, Impacts and Mitigation Measures demonstrates that the Proposed Project would not result in any significant impacts and thus no mitigation measures (MMs) are required.

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR), in June 2023. Three comment letters were received that addressed transportation, as noted in Table 2-1. These comments raised concern about construction traffic effects on access to Mid-Peninsula High School as well as general concern about increasing vehicle traffic volumes and congestion and adverse effects on pedestrian and bicycle transportation. The NOP and the comments received in response to it are provided in Appendix G of this EIR.

In addition to the documents incorporated by reference, as identified in Section 2.7 of Chapter 2, Introduction of this EIR, the following analysis is based, in part, on the following sources:

- Transportation Impact Analysis (TIA) prepared by Dudek in November 2025 (Appendix M1)
- Transportation Demand Management (TDM) Memorandum prepared by Kimley Horn, January 31, 2024 (Appendix M2)

For purposes of disclosing potential transportation impacts, projects in the City of Menlo Park (City) use the City's current Transportation Impact Analysis (TIA) Guidelines (2020), last updated in 2022, to ensure compliance with both state and local requirements. Prior to the 2020 update, the City's TIA Guidelines used roadway congestion or level of service (LOS) as the primary study metric for planning and environmental review purposes. However, Senate Bill (SB) 743 required the Governor's Office of Planning and Research (OPR) to establish a new metric for identifying and mitigating transportation impacts under CEQA in an effort to meet the state's goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. The CEQA Guidelines amendments adopted in December 2018 added CEQA Guidelines Section 15064.3 to implement SB 743, which establishes that as of July 1, 2020, VMT (not LOS) is the only legally acceptable threshold for transportation-related environmental impacts pursuant to CEQA. OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA (2018), which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and MMs. A local VMT threshold was adopted by the Menlo Park City Council on June 23, 2020, which incorporated local VMT thresholds into the City's updated TIA Guidelines. The City Council, however, retained the requirement that the TIA also analyze LOS for (non-CEQA) planning purposes. On January 11, 2022, the City Council approved changes to the local VMT thresholds; this EIR uses the updated thresholds.

Therefore, the TIA includes both an assessment of VMT impacts using local VMT thresholds included in the updated TIA Guidelines for purposes of determining potentially significant environmental impacts pursuant

to CEQA, as well as a summary of the LOS analysis for assessment of local congestion for informational planning purposes. However, in accordance with SB 743 for purposes of determining potentially significant environmental impacts, VMT is the threshold of significance. Because the City's TIA Guidelines also require an analysis of LOS for local planning purposes, that information is provided for informational purposes and is summarized in the Non-CEQA Analysis in section 4.6.5 and in Appendix M1, Transportation Impact Analysis, of this EIR. It is important to note that the existing roadway network is not laid out consistent with cardinal directions. For purposes of this section, including the Non-CEQA Analysis, as well as the Transportation Impact Analysis, roadways parallel to US 101 are assumed to run in a north-south direction. Therefore, and as directed by City staff, Willow Road, University Avenue, and Kavanaugh Drive are assumed to run in an east-west direction. All other roadways are assumed to run in a north-south direction. All other EIR sections and reports retain the cardinal directions.

4.6.1 Environmental Setting

This section describes the existing transportation network in the vicinity of the Project site, including the roadway, transit, pedestrian, and bicycle systems.

Existing Street System

Characteristics of the existing street system within the study area are described below.

U.S. Highway 101 (US-101 or Highway 101) is a north-south, 8-lane, divided highway located south of the Project site. The highway serves as a regional transportation corridor on the peninsula, with access to the Project site provided via the Willow Road interchange. US-101 is designated as a Freeway/Expressway by the City of Menlo Park General Plan. The posted speed limit is 65 miles per hour (MPH) within the study area.

Bayfront Expressway (State Route 84 or SR-84) is a north-south, six-lane, divided roadway with a raised median and left-turn pockets throughout the study area. The expressway connects the Project site to major corridors and communities, including Interstate 880 (I-880) via the Dumbarton Bridge and communities in the East Bay. Bayfront Expressway is designated as a Freeway/Expressway by the City of Menlo Park General Plan. The posted speed limit is 50 MPH within the vicinity of the Project site. Sidewalk, curb, and gutters are not provided along the majority of Bayfront Expressway within the study area; however, pedestrian crosswalks and bicycle lanes are provided at major intersections connecting bicycle and pedestrian facilities along adjacent streets to the Class I Bike Path that runs parallel to westbound traffic on the expressway.

O'Brien Drive is a north-south, undivided, two-lane roadway located along the Project site's southern boundary and is designated as a Mixed Use Collector by the City of Menlo Park General Plan. O'Brien Drive serves as the primary roadway to and from the Project site. There are no specific bicycle facilities, and pedestrian facilities are present along the north side of the roadway. The posted speed limit is 25 MPH.

Willow Road is an east-west, four-lane divided roadway directly north of the Project site and provides direct access to the site. Willow Road serves as a connection between major corridors, including Highway 101 and Bayfront Expressway, and is designated as a Boulevard from Bayfront Expressway to Bay Road, an Avenue – Mixed Use from Bay Road to Middlefield Road, and a Neighborhood Collector from Middlefield

Road to Alma Road, per the City of Menlo Park General Plan. Bicycle and pedestrian facilities and bus stops for Dumbarton Express (DB and DB1) buses, and M1 shuttle are provided along the roadway. Bicycle facilities located along Willow Road are designated as Class II Bike Lanes per the Transportation Master Plan (TMP). Parking is generally not permitted along the roadway, except for some portions in residential areas. The posted speed limit ranges from 25 to 40 MPH within the study area.

University Avenue is an east-west, four-lane divided roadway located approximately to the southeast of the Project site. University Avenue is designated as a Boulevard according to the City of Menlo Park General Plan. Similar to Willow Road, University Avenue connects major corridors, including Highway 101 and Bayfront Expressway. Bicycle and pedestrian facilities are provided along the roadway, within the Project vicinity. Bicycle facilities along University Avenue are classified as Class I Bike Paths. On-street parking is generally not permitted, and there is no availability within the Project vicinity. The posted speed limit is 25 MPH within the study area.

Adams Drive is a north-south, undivided, two-lane roadway located southeast of the Project site that connects the Project site to major corridors, such as University Avenue. There are no specific bicycle or pedestrian facilities located throughout the roadway. No posted speed limit is present.

Hamilton Avenue is a north-south, undivided, two-lane roadway located northeast of the Project site. Hamilton Avenue is designated as a Neighborhood Collector by the City of Menlo Park General Plan. There are grade separated pedestrian facilities and bus stops for Route 81 located along the roadway. The posted speed limit is 25 MPH.

Ivy Drive is a north-south, two-lane, divided roadway located north of the Project site. Ivy Drive is considered a local access roadway by the City of Menlo Park General Plan. A vegetative divider between lanes is present but is fragmented to provide access for four-way intersections. Pedestrian facilities and bus stops for the City of Menlo Park M1-Crosstown Shuttle (M1 shuttle) are located throughout the roadway. The posted speed limit is 25 mph.

Kavanaugh Drive is a north-south, two-lane, undivided roadway located to the south of the Project site. Kavanaugh Drive is designated as a Local Access Road by the City of Menlo Park General Plan. There is on-street parking and pedestrian facilities are present. Bus stops for Route 81 are present along the roadway. The posted speed limit is 25 mph.

Newbridge Street is a north-south, divided, two-lane roadway located southwest of the Project site. Newbridge Street is designated as a neighborhood collector roadway by the City of Menlo Park General Plan. The roadway is a multi-use pathway and features a green-striped Class II bike lane on the westbound lane, as well as pedestrian facilities on both east and westbound sides. Bus stops for SamTrans Route 281, 296, 2960, and 397 buses are located along the road. The posted speed limit is 25 MPH.

Existing Transit Facilities

Figures 4.6-1 and 4.6-2 show the existing transit facilities within the study area. The Project site is served by passenger rail and bus services. The Caltrain commuter rail system serves the Menlo Park Station, located at 1120 Merrill Street, and the Palo Alto Station, located at 95 University Avenue, both are approximately 3 miles southwest of the Project site. The study area is also served by the Menlo Park Shuttle

Service, the SamTrans bus service, and the Dumbarton Express, all of which collectively provide local and regional public transit within the Project area.

Caltrain

Caltrain is a commuter railroad operating between San Francisco and San Jose, with limited service to Gilroy. As of 2023, Caltrain's fleet consists of 29 locomotives, 134 passenger cars, and 37 bike cars that service 31 stations over a 77-mile corridor. Caltrain is owned and operated by the Peninsula Corridor Joint Powers Board, which is made up of representatives from the City and County of San Francisco, the San Mateo County Transit District, and the Santa Clara Valley Transportation Authority (Caltrain 2023).

As noted above, the Proposed Project would be served by Caltrain's Menlo Park and Palo Alto stations, both of which are located approximately 3.0 miles south of the Project. Weekday headways for northbound and southbound trains at either station average around 30 to 45 minutes, however during peak hours can be as low as 10 to 15 minutes.

Menlo Park Shuttle Service

The City of Menlo Park offers a free shuttle service for local community destinations and commuters working in business parks. All shuttles are wheelchair-accessible and have a rack that accommodates two bicycles. The Project site is served by the M1 Crosstown and M4 Willow Road shuttles. The M4 Willow Road shuttle provides service from the Menlo Park Caltrain station to O'Brien Drive along Willow Road. The M1 Crosstown shuttle provides service across the City, from Del Norte Avenue to Monte Rosa Drive. The nearest M4 shuttle stop is located at the intersection of Willow Road and O'Brien Drive, immediately southwest of the Project site. The nearest M1 shuttle stop is located at the intersection of Willow Road and Ivy Street, approximately 0.15 miles northwest of the Project. The M1 shuttle is a community shuttle that provides all day service with 90-minute headways, and the M4 shuttle provides morning and afternoon commuter service with an average of 60-minute peak service headways to synchronize with Caltrain's peak period schedule (City of Menlo Park 2023).

San Mateo County Transit District (SamTrans)

SamTrans bus services are part of the regional public transit and transportation effort conducted by the County of San Mateo to provide bus service throughout San Mateo County and into parts of San Francisco and Palo Alto. In total, SamTrans operates 76 bus routes throughout its service area (SamTrans 2023). There are five routes that serve the Project site: routes 81, 281, 296, 296 Owl, and 397 Owl.

Route 81 serves the Menlo-Atherton High School, primarily operating along roads adjacent to neighborhood communities. This route operates on weekdays only, from 7:30am to 8:30am with 10-minute headways, and from 2:30pm to 5:00pm with 30-minute headways. The nearest stop to the Project is located at Carlton Avenue and Ivy Drive, approximately 0.15 miles from the Project site.

Route 281 serves the Stanford Shopping Center and the Menlo Park Senior Center, primarily operating along University Avenue and Newbridge Street. This route operates weekdays from 6:00am to 10:30pm, with 30-minute headways, and on the weekends from 8:00am to 7:30pm, with 30-minute headways. The nearest stop to the Project is located at Willow Road and Newbridge Street, approximately 0.30 miles from the Project site.

Route 296 serves the Redwood City Transit Center, primarily operating along Middlefield Road and Willow Road. This route operates weekdays from 5:15am to 10:45pm, with 20-minute headways, and on weekends from 7:45am to 8:00pm, with 60-minute headways. The nearest stop to the Project is located at Willow Road and Newbridge Street, approximately 0.30 miles from the Project site.

Route 296 Owl is a night service route that serves the Palo Alto Transit Center and the Menlo Park Transit Center, primarily operating along Middlefield Road, Willow Road, and University Avenue. This route operates on weekdays from 3:40am to 5:20am and 10:45pm to 12:25am with 60-minute headways, and on weekends from 3:45am to 8:25am and 7:45pm to 12:25am with 60-minute headways. The nearest stop to the Project is located at Willow Road and Newbridge Street, approximately 0.30 miles from the Project site.

Route 397 Owl is a night service route that serves communities along the western side of the peninsula from San Francisco to Palo Alto. This route operates daily from 1:00am to 7:00am, with 60-minute headways. The nearest stop to the Project is located at Willow Road and Newbridge Street, approximately 0.30 miles from the Project site.

Ride Plus is a new, on-demand, shared-ride service by SamTrans that offers affordable transportation for residents throughout East Palo Alto and the Belle Haven neighborhood of Menlo Park. Ride Plus operates daily from 6:00am to 10:00pm within the local service area.

Dumbarton Express

The Dumbarton Express is an all-day, limited stop bus service that provides a connection for riders between the East Bay and the Peninsula via the Dumbarton Bridge. The Dumbarton Express operates two bus routes: DB and DB1, both of which operate Monday through Friday except holidays. The DB route operates between the Union City BART (Bay Area Rapid Transit) station and the Stanford Oval from 5:25am to 11:45am and from 1:30pm to 7:05pm with 30-minute headways. The DB1 route operates between the Union City BART station and the Deer Creek Road business park in Palo Alto from 5:10am to 11:59am and 12:43pm to 6:45pm with 30-minute headways. The nearest bus stop for both routes is located at Willow Road and Ivy Drive, approximately 0.15 miles from the Project site.

Existing Pedestrian Facilities

The City's TMP indicates that while the City's sidewalk network is largely complete, there are still a number of challenges that can make walking difficult for many residents. These issues include difficulty crossing multi-lane, high-traffic volume streets, lack of buffers between sidewalks from traffic, and obstruction of sidewalks by municipal and utility infrastructure (e.g., utility poles) (City of Menlo Park 2020).

Land uses around the Project site are predominately comprised of general offices, which serve as areas with active transportation users. Sidewalks are present along the eastern portions of O'Brien Drive, and on both north and south sides of Willow Road. However, there are missing sidewalk segments on both eastern and western portions of O'Brien Drive including directly along the Project site boundary, and along Adams Drive. These roadways are outfitted with storm drain outlets that either flow into the municipal storm drain system or directly into vegetated swales. Designated crosswalks are also present along most of the intersections near the Project site.

Figure 4.6-3 illustrates the existing and future bicycle facilities in the study area. The City's TMP also includes specific class designations for bicycle facilities within the City. The following designations are used to classify bicycle facilities with the City:

- **Class I Shared Use Path** allows for two-way, off-street bicycle use and also may be used by pedestrians, skaters, wheelchair users, joggers, and other non-motorized users. These facilities are frequently found in parks, along rivers, beaches, and in greenbelt or utility corridors where there are few conflicts with motorized vehicles. Path facilities can also include amenities such as lighting, signage, and fencing.
- **Class II On-Street Bicycle Lanes** is designated exclusively for bicycle travel. On-street bicycle lanes are separated from vehicle lanes by striping and can include pavement stencils and other treatments. On-street bicycle lanes are most appropriate on collector streets with single-lane of traffic in each direction where moderate traffic volumes and speeds are too high for shared-roadway use.
- **Class III: Shared Roadways** allows for bicyclists and motor vehicles to use the same roadway space. These facilities are typically used on roads with low speeds and traffic volumes; however, they can be used on higher volume roads with wide outside lanes or shoulders. A motor vehicle driver will usually have to cross over into the adjacent lane to pass a bicyclist unless a wide outside lane or shoulder is provided.
- **Class IV: Separated Bikeways** is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of an on-street bike lane. A separated bikeway is physically separated from motor traffic by a vertical element and distinct from the sidewalk. In situations where on-street parking is allowed, separated bikeways are located between the parking and the sidewalk.
- **Multi-use Pathways** provides priority access to pedestrians and bicycles only, per Caltrans pathway minimum standards. Multi-use pathways feature high-quality crossings where they traverse major roadways.

The closest designated bicycle facility is a Class III Bike Route along O'Brien Drive, located immediately south of the Project site, and Class II along Willow Road, immediately west of the Project site. In addition, an existing Class I Bike Path is provided along Bayfront Expressway and Class II Bike Lanes are present on Newbridge Street and University Avenue. As indicated in the TMP, proposed bicycle facilities in the vicinity of the Project site include future Class IV Bikeways on Willow Road, an extension of the Class II Bike Lane along O'Brien Drive and a Class II Bike Lane along Marsh Road, from Bayfront Expressway to Bay Road.

4.6.2 Regulatory Framework

Federal Regulations

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the United States Access Board, an independent federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide

in the last decade. The guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. The guidelines apply to all proposed roadways in the Project area. The City's ADA Coordinator works out of City Hall to manage the City's efforts in complying with applicable accessibility regulations.

State Regulations

Assembly Bill 32

With Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing GHG emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating the response to comply with AB 32. In 2007, CARB adopted a list of early action programs that could be put in place by January 1, 2010. In 2008, CARB defined its 1990 baseline level of emissions, and by 2011 it completed its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms like the proposed cap and trade program, took effect in 2012. On December 11, 2008, CARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of SB 375 as the means for achieving regional transportation related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

Senate Bill 32

In 2016, the Legislature enacted SB 32 as a follow-up to AB 32. Health and Safety Code section 38566, added by SB 32, provides that “[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.” In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions to 40 percent below those that occurred in 1990.

Senate Bill 375

SB 375 requires metropolitan planning organizations (MPOs) to prepare a sustainable communities strategy (SCS) as part of their regional transportation plans (RTPs). MPOs must consider the information in the general plans of the municipalities in their jurisdiction when undertaking transportation planning and funding. The SCS demonstrates how transportation planning for the region will support attainment of the region's GHG reduction targets for cars and light-duty vehicles. Specifically, the SCS must identify a transportation network that is integrated with the forecasted development pattern of the region and will reduce GHG emissions from automobiles and light trucks in accordance with targets set by the CARB. In 2017, the State Legislature passed SB 150, which requires CARB to prepare a report beginning in 2018 and every 4 years thereafter analyzing the progress made by each MPO in meeting the regional GHG emission reduction targets. The Metropolitan Transportation Commission (MTC) serves as the MPO for the Bay Area, including San Mateo County and Menlo Park. SB 375 also provides streamlining (i.e., limited CEQA review) for certain transit priority projects that are consistent with the SCS.

Senate Bill 743

On September 27, 2013, Governor Brown signed SB 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline the review under the CEQA process for several categories of development projects including the development of infill projects in transit priority areas and to balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (Public Resources Code Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of LOS in CEQA documents.

In the past, environmental review of transportation impacts focused on the delay that vehicles experience at intersections and on roadway segments, which is often measured using LOS. Mitigation for impacts on vehicular delay often involves increasing capacity such as widening a roadway or the size of an intersection, which in turn encourages more vehicular travel and greater pollutant emissions. Additionally, improvements to increase vehicular capacity can often discourage alternative forms of transportation such as biking and walking. SB 743 directed the OPR to develop an alternative metric(s) for analyzing transportation impacts in CEQA documents and required that the alternative promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, development of multimodal transportation systems, and providing clean, efficient access to destinations. Under SB 743, it was anticipated that the focus of transportation analysis would shift from vehicle delay to VMT within transit-priority areas (i.e., areas well served by transit).

Pursuant to SB 743, OPR released the draft revised CEQA Guidelines in November 2017, recommending the use of VMT for analyzing transportation impacts for all projects. Additionally, OPR released Updates to Technical Advisory on Evaluating Transportation Impacts in CEQA, to provide guidance on VMT analysis. In this Technical Advisory, OPR provides its recommendations to assist lead agencies in screening out projects from VMT analysis and selecting a significance threshold that may be appropriate for their particular jurisdictions. While OPR's Technical Advisory is not binding on public agencies, CEQA allows lead agencies to "consider thresholds of significance recommended by other public agencies, provided the decision to adopt those thresholds is supported by substantial evidence" (CEQA Guidelines Section 15064.7[c]).

In December 2018, the CEQA Guidelines were updated to add new Section 15064.3, Determining the Significance of Transportation Impacts, which describes specific considerations for evaluating a project's transportation impacts using the VMT methodology.

CEQA Guidelines Section 15064.3(b) is divided into four subdivisions as follows:

1. **Land Use Projects.** VMT exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease VMT in

- the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
2. **Transportation Projects.** Transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.
 3. **Qualitative Analysis.** If existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
 4. **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

OPR's regulatory text indicated that a public agency may immediately commence implementation of the new transportation impact guidelines, and that the guidelines must be implemented statewide by July 1, 2020. However, the OPR Technical Advisory allows local agencies to retain their congestion-based LOS standards in general plans and for project planning purposes.

California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the state highway system. Federal highway standards are implemented in the state by Caltrans. Any improvements or modifications to the state highway system within the study area would need to be approved by Caltrans.

On May 20, 2020, Caltrans adopted its VMT-Focused Transportation Impact Study Guide (TISG). The TISG provides guidance on how Caltrans will review land use projects, with a focus on VMT analysis and supporting state land use goals, state planning priorities, and GHG emission reduction goals. The TISG also identifies land use projects' possible transportation impacts to the state highway system and potential non-capacity increasing MMs.

The TISG emphasizes that VMT analysis is Caltrans' primary review focus, and references OPR's 2018 Technical Advisory as a basis for the guidance in the TISG. Notably, the TISG recommends the use of the recommended thresholds in the Technical Advisory for land use projects. The TISG also references the Technical Advisory for screening thresholds that would identify projects and areas presumed to have a less-

than-significant transportation impact. Caltrans supports streamlining for projects that meet these screening thresholds because they help achieve VMT reduction and mode shift goals.

On July 2, 2020, Caltrans released the Interim Land Development and Intergovernmental Review Safety Review Practitioners Guidance. The purpose of the interim guidance is to provide instructions for conducting safety impact analysis for proposed land use projects and plans in compliance with CEQA. The guidance is focused on potential safety impacts affecting the state highway system and sets expectations for Caltrans staff and lead agencies about what information and factors to consider in safety impact analysis. Caltrans recommends lead agencies use a similar approach, specifically Local Roadway Safety Plans and Systemic Safety Analysis Reports, as a model for safety analysis of the local transportation network.

Regional and Local Regulations

Metropolitan Transportation Commission

MTC was created by the California Legislature in 1970 to plan and provide a cohesive vision for the Bay Area's transportation system. The Commission's scope over the years has expanded to address other regional issues, including housing and development. MTC provides planning, funding, coordination and technical assistance to cities, counties, transit agencies and other partners to bring the region together—to make life better for residents and make the Bay Area's transportation system more resilient to future challenges. MTC directly distributes more than \$1 billion per year to local public transit agencies and other recipients and prioritizes requests from local agencies for millions more in state and federal funds. In addition to coordinating with local agencies, MTC distributes state and federal funding through the Regional Transportation Improvement Program.

Plan Bay Area

Plan Bay Area 2050 is a state-mandated, integrated long-range transportation and land use plan that is required by SB 375. All metropolitan regions in California must complete a Sustainable Communities Strategy as part of a Regional Transportation Plan. This strategy considers transportation measures in light of land use and housing to meet greenhouse gas reduction targets set by the California Air Resources Board. Plan Bay Area 2050 is a long-range plan charting the course for the future of the nine-county San Francisco Bay Area. Plan Bay Area 2050 focuses on four key elements—housing, the economy, transportation, and the environment—and identifies goals, policies, and actions to make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. The latest plan was developed in 2021. Local governments designate priority development areas (PDAs) as appropriate locations to focus growth, subject to approval by the Association of Bay Area Governments (ABAG). The agencies estimate approximately 72 percent of housing and 48 percent of job growth will occur in the region's designated PDAs between 2015 and 2050. The Project site is not located within a PDA.

City/County Association of Governments of San Mateo County San Mateo County Congestion Management Program

The City/County Association of Governments of San Mateo County (C/CAG) is the designated congestion management agency for San Mateo County and provides updates to the County's Congestion Management

Program (CMP) every two years and was last updated in November 2025. The CMP describes the framework for the ongoing process that will be followed by C/CAG, the County of San Mateo, and the cities/towns in San Mateo County to implement state and federal requirements concerning the CMP. The overall goal of this CMP is to help C/CAG promote countywide solutions to transportation problems based upon cooperation and mutual support. The CMP includes elements of Roadway System, Traffic LOS Standards, Performance Element, Trip Reduction and Travel Element, Land Use Impact Analysis Program, Seven-Year CIP, and other items. Per the CMP and C/CAG, new developments that add trips to the CMP network must be evaluated for transportation impacts. C/CAG recognizes that SB 743 requires VMT as the primary metric for traffic impacts under CEQA and indicates that future CMP legislation will be amended. However, as updated legislation is not currently available, C/CAG continues to require use of a delay-based metric (LOS) to measure roadway performance. In September 2021, the C/CAG Board voted to adopt an updated TDM Policy and incorporate it into the CMP Land Use Impact Analysis Program. The C/CAG TDM Policy requires new development projects that generate at least 100 average daily trips (ADT) complete a TDM Checklist committing them to reduce vehicle trips to the site by implementing TDM measures. All C/CAG member jurisdictions must comply unless expressly exempt by C/CAG due to local requirements meeting or exceeding the trip reduction targets set by the Policy. To support the TDM Policy, C/CAG identified Commute.org as the partner agency responsible for providing guidance to local jurisdictions and project applicants. Commute.org developed a monitoring and compliance reporting program and conducts the monitoring and compliance aspects of the program to ensure that developers and their tenants follow through on their TDM commitments. All projects subject to the C/CAG TDM Policy are required to implement a set of TDM measures identified within a TDM Checklist and conduct monitoring and compliance reporting per an implementation guide included as Appendix I of the 2025 San Mateo County CMP. The Proposed Project qualifies as a large (generates 500+ ADT) transit proximate (approximately 0.5 to 3 miles from high quality transit service), project and therefore requires a trip reduction of 35%. The Proposed Project would be subject to the TDM Policy Implementation Program per Appendix I of the 2025 San Mateo County CMP.

C/CAG San Mateo County Comprehensive Bicycle and Pedestrian Plan

The Comprehensive Bicycle and Pedestrian Plan provides a framework to help C/CAG improve walking and bicycling conditions in San Mateo County. The transportation goals for Menlo Park that relate to the Proposed Project include:

Goal 2: Promote More People Riding and Walking for Transportation and Recreation

Policy 2.4: Promote integration of bicycle and walking-related services and activities into broader countywide transportation demand management and commute alternatives programs. This could include encouraging local jurisdictions and major employers to provide locker rooms, showers, and other amenities for changing and storing clothes and equipment to support walking and bicycling.

Goal 4: Advance Complete Streets Principles and the Accommodation of All Roadway Users

Policy 4.1: Comply with the Complete Streets policy requirements of Caltrans and the Metropolitan Transportation Commission concerning safe and convenient access for bicyclists and pedestrians, and assist local implementing agencies in meeting their responsibilities under the policy.

Policy 4.5: Encourage local agencies to adopt policies, guidelines, standards, and regulations that result in truly bicycle-friendly and pedestrian-friendly land use developments, and provide them technical assistance and support in this area such as through transportation demand management strategies or model policy or ordinance language.

Policy 4.6: Discourage local agencies from removing, degrading, or blocking access to bicycle and pedestrian facilities without providing a safe and convenient alternative, especially in construction zones.

City of Menlo Park General Plan

Transportation-related policies are included in the Circulation Element of the Menlo Park General Plan (City of Menlo Park 2016a). This section was added to the General Plan to provide a framework for transportation planning within the city and was most recently updated in 2016 when the City updated its Land Use and Circulation Elements (commonly referred to as ConnectMenlo). The framework is based on existing practices and future considerations in land use, population, and regional transportation. The General Plan Circulation Element establishes a vision for the city with goals related to sustainability, reliability, and safety for all modes of transportation. The transportation goals for Menlo Park that relate to the Proposed Project include:

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-1.7: 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-2.2: Livable Streets. Ensure that transportation projects preserve and improve the aesthetics of the city.

Policy CIRC-2.3: Street Classification. Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing “complete streets” sensitive to neighborhood context.

Policy CIRC-2.4: Equity. Identify low-income and transit-dependent districts that require pedestrian and bicycle access to, from, and within their neighborhoods.

Policy CIRC-2.6: Local Streets as Alternative Routes. Work with appropriate agencies to discourage use of city streets as alternatives to, or connectors of, State and federal highways; to encourage improvement of the operation of US 101; and to explore improvements to bayfront Expressway (State Route 84) and Marsh Road (and its connection to US 101), with environmental protection for adjacent marsh and wetland areas, to reduce regional traffic on Willow Road (State Route 114).

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 Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan.

Policy CIRC-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.

Policy CIRC-2.9: Bikeway System Expansion. Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Comprehensive Bicycle Development Plan, and the El Camino Real/Downtown Specific Plan.

Policy CIRC-2.10: Green Infrastructure. Maximize the potential to implement green infrastructure by: a) Reducing or removing administrative, physical, and funding barriers; b) Setting implementation priorities based on stormwater management needs, as well as the effectiveness of improvements and the ability to identify funding; and c) Taking advantage of opportunities such as grant funding, routine repaving or similar maintenance projects, funding associated with Priority Development Areas, public private partnerships, and other funding opportunities.

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-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., VMT per capita) 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.

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 capita vehicle miles traveled.

Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita greenhouse gas emissions.

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.

Program CIRC-3.A: Transportation Impact Metrics. Supplement VMT and greenhouse gas emissions per service population (or other efficiency metric) metrics with LOS in the transportation impact review process, and utilize LOS for identification of potential operational improvements, such as traffic signal upgrades and coordination, as part of the Transportation Master Plan.

Goal CIRC-4: Improve Menlo Park’s overall health, wellness, and quality of life through transportation enhancements.

Policy CIRC-4.1: Global Greenhouse Gas Emissions. Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce greenhouse gas emissions.

Policy CIRC-4.2: Local Air Pollution. Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.

Policy CIRC-4.3: Active Transportation. Promote active lifestyles and active transportation, focusing on the role of walking and bicycling, to improve public health and lower obesity.

Policy CIRC-4.4: Safety. Improve traffic safety by reducing speeds and making drivers more aware of other roadway users.

Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

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-6: Provide a range of transportation choices for the Menlo Park community.

Policy CIRC-6.1: Transportation Demand Management. Coordinate Menlo Park’s transportation demand management efforts with other agencies providing similar services within San Mateo and Santa Clara Counties.

Policy CIRC-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.

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.

Policy CIRC-7.2: Off-Street Parking. Ensure both new and existing off-street parking is properly designed and used efficiently through shared parking agreements and, if appropriate, parking in-lieu fees.

Policy CIRC-7.3: Park Once. Support the establishment of shared public parking, particularly in mixed-use and retail areas, and of Park-Once strategies that allow motorists to park once and complete multiple daily tasks on foot before returning to their vehicle, helping to reduce vehicle trips and parking demand.

City of East Palo Alto General Plan

Although the Proposed Project is located entirely within Menlo Park, several intersections and roadway segments along University Avenue would be either fully within or shared by both East Palo Alto and Menlo Park. Therefore, the transportation-related policies included in the Transportation Element of the East Palo Alto General Plan 2035, and the transportation goals for East Palo Alto that relate to the Proposed Project consist of:

Goal T-7: Adopt transportation performance measures.

Policy T-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. V/C ratios are calculated based on existing or future average daily traffic (ADT) volumes and daily capacity values for various types of roadways. A level of service scale is used to evaluate roadway performance based on V/C ratios. These levels range from “A” to “F,” with LOS A representing free flow conditions and LOS F representing severe traffic congestion. Descriptions of traffic flow for the different levels of service are provided in Table 6-4 Standards for Roadway Levels of Service. The performance criteria for evaluating volumes and capacities of the East Palo Alto roadway system is LOS D. At a signalized intersection, an impact is considered significant if it causes operations to degrade from LOS D or better to LOS E or F; or exacerbates LOS E or F conditions by increasing critical delay by >4 seconds and increasing volume to capacity ratio (V/C ratio) by 0.01; or increases the V/C ratio by > 0.01 at an intersection that exhibits unacceptable operations, even if the calculated LOS is acceptable. At an unsignalized intersection, an impact is considered significant if it causes operations to degrade from LOS D or better to LOS E or F; or exacerbates LOS E or F conditions by increasing control

delay; or causes volumes under Project conditions to exceed the Caltrans Peak Hour Volume Warrant Criteria. Where the City determines that proposed development Projects will cause LOS standards to be exceeded, appropriate mitigation will be required to improve roadways to meet LOS standards.

Policy T-7.3: Multimodal transportation impact fee. Adopt a transportation impact fee for new development that raises funds for improving all modes of transportation.

Menlo Park Municipal Code

The Proposed Project is located in the Life Sciences – Bonus (LS-B) zoning district. The Zoning Ordinance requires development and implementation of a TDM plan:

Section 16.44.090 Transportation Demand Management. As stated in Section 16.44.090 of the City's Zoning Ordinance, all new construction, regardless of size, and building additions of 10,000 or more square feet of gross floor area, or a change of use of 10,000 or more square feet of gross floor area shall develop a TDM plan to reduce associated vehicle trips to at least 20 percent below standard generation rates for uses on the individual Project site. Each individual applicant is required to prepare its own TDM plan and provide an analysis to the satisfaction of the City's Transportation Manager of the impact of that TDM program. Further, each project that is implementing a TDM plan is required to provide annual reporting to the city's transportation manager over the life of the development to demonstrate that the TDM measures are achieving the intended reduction or are replaced by appropriate substitute measures.

The TDM Program Guidelines (July 2015) provide options for project applicants to mitigate the traffic impacts of new developments. The guidelines include an extensive list of TDM measures accompanied with the number of trips credited to each measure and the rationale for each measure. The list of recommended measures and the associated trip credit is maintained by the C/CAG as part of the County's CMP and are as follows:

Municipal Code Section 16.44.090(1) states that eligible TDM measures may include but are not limited to:

- Participation in a local Transportation Management Association that provides documented, ongoing support for alternative commute programs;
- Appropriately located transit shelter(s);
- Preferred parking for carpools or vanpools;
- Designated parking for car-share vehicles;
- Requiring drivers to pay directly for using parking facilities;
- Public and/or private bike share program;
- Provision or subsidy of carpool, vanpool, shuttle, or bus service, including transit passes for site occupants;
- Required alternative work schedules and/or telecommuting for non-residential uses;
- Passenger loading zones for carpools and vanpools at main building entrance;
- Safe, well-lit, accessible, and direct route to the nearest transit or shuttle stop or dedicated, fully accessible bicycle and pedestrian trail;

- Car share membership for employees or residents;
- Emergency Ride Home programs;
- Green Trip Certification;

Municipal Code Section 16.44.090(2) defines that measures receiving TDM credit shall be:

- Documented in a TDM plan developed specifically for each project and noted on project site plans, if and as appropriate;
- Guaranteed to achieve the intended reduction over the life of the development, as evidenced by annual reporting provided to the satisfaction of City's Transportation Manager;
- Required to be replaced by appropriate substitute measures if unable to achieve intended trip reduction in any reporting year;
- Administered by a representative whose updated contact information is provided to the City's Transportation Manager.

City of Menlo Park Complete Streets Policy

The Complete Streets Policy was adopted by the City in 2013. The policy confirms the City's commitment to provide safe and convenient travel along and across streets for all users. It also requires Complete Streets infrastructure to be considered for incorporation into all significant planning, funding, design, approval, and implementation processes for new, maintenance, and retrofit construction.

City of Menlo Park Neighborhood Traffic Management Plan

The Neighborhood Traffic Management Plan (City of Menlo Park 2004) was developed to mitigate the adverse effects of increased vehicle speeds and vehicle volumes on neighborhood streets. The primary goal of this plan is to correct unsafe conditions at prioritized locations with higher incidences of collisions and higher speeds. The plan recommends two levels of measures, Level I "Express" and Level II. Level I "Express" measures include education and enforcement initiatives. Level II measures are traffic management features that can be implemented to divert/slow traffic (i.e., speed humps) and to restrict access to certain properties. The traffic management measures are recommended by City staff at the request of the community.

City of Menlo Park Transportation Impact Fee

The City of Menlo Park has a Transportation Impact Fee (TIF) codified in Municipal Code Chapter 13.26 to help fund transportation improvements as new development occurs in the City. New development and redevelopment projects are subject to the TIF to contribute to the cost of new transportation infrastructure associated with the development. The types of developments that are subject to the TIF are:

- All new development in all land use categories identified in the City's zoning ordinance
- Any construction adding additional floor area to a lot with an existing building
- New single-family and multifamily dwelling units
- Changes of use from one land use category to a different land use category that requires Planning Commission approval.

The TIF provides a mechanism to modernize the City’s fee program to collect funds towards construction of the improvements expected to be identified and prioritized in the TMP (as noted above).

City of Menlo Park Transportation Master Plan

The City adopted the finalized TMP (City of Menlo Park 2020b) in November 2020 to serve as an update of the City’s Bicycle and Sidewalk Plans and advance goals and policies set forth in the General Plan Circulation Element. The TMP provides the ability to identify appropriate projects to enhance the transportation network, conduct community engagement to ensure such projects meet the communities’ goals and values, and prioritize projects based on need for implementation. The following recommended TMP projects (that are also included in the TIF, except where noted) proposed within the vicinity of the Project site are identified below for informational purposes only in Table 4.6-1.

Table 4.6-1. City of Menlo Park Recommended TMP Projects

TMP Project No.	Location	Project	Project Details
8.	Bayfront Expressway & Willow Road	Bayfront Expressway Multimodal Corridor Project	<p>Install bike signals, high-visibility crosswalks, and cross-bike markings.</p> <p>Reconstruct eastbound Willow Road right-turn channelizing island to improve pedestrian access.</p> <p>Remove southbound Bayfront Expressway channelizing island to provide space for shoulder-running bus lane and implement a right-turn overlap phase.</p> <p>Modify traffic signal to accommodate channelized right turn modifications.</p> <p>Install Transit Signal Priority (TSP) for queue jumps by shoulder-running buses.</p>
9.	Bayfront Expressway	Bayfront Expressway Multimodal Corridor Project	<p>Install shoulder-running peak hour bus lane on Bayfront Expressway.</p> <p>Install Transit Signal Priority (TSP) at signalized intersections.</p>
11.	Bayfront Expressway	Dumbarton Corridor Project	<p>Implement Dumbarton Transportation Corridor Study alternative with improved mixed flow and managed lane connections, including grade separations with revised access to University Avenue, Willow Road, Chilco Street, Marsh Road, and Chrysler Drive, to include City and Neighborhood involvement in the Project development (not included in TIF).</p>
13.	Dumbarton Rail Corridor Trail from Marsh Road to University Avenue	Dumbarton Corridor Project	<p>Construct Class I Multi-Use Path.</p>

Table 4.6-1. City of Menlo Park Recommended TMP Projects

TMP Project No.	Location	Project	Project Details
25.	Ivy Drive from Willow Road to Market Place	Belle Haven Bicycle Network Improvement Project	Designate Class III Bicycle Route
27.	Ivy Drive from Willow Road to Chilco Street	Ivy Drive Pedestrian Network Improvement	Widen sidewalks on both sides of Ivy Drive and narrow existing median (requires coordination with SFPUC).
30.	Adams Drive from O'Brien Drive to University Avenue	Adams Drive Pedestrian and Bicycle Network Improvement	Install sidewalk on both sides of the roadway, to be completed in phases, as the properties are redeveloped. Establish Class II Bicycle Lanes.
31.	University Avenue and Adams Drive	University Avenue and Adams Drive Intersection Improvements	Install traffic signal (requires coordination with City of East Palo Alto and Caltrans).
32.	O'Brien Drive from Willow Road to University Avenue	O'Brien Drive Pedestrian Network Improvement	Install sidewalk on both sides of the roadway, to be complete in phases, as the properties are redeveloped. Establish Class II Bicycle Lanes.
36.	Willow Road between Bayfront Expressway and US-101	Willow Road Corridor Improvement Project	Buses allowed to use existing right turn lane at O'Brien location for queue jump with TSP. Implement peak hour left-turn restrictions.
37.	Willow Road from Dumbarton Rail Corridor to Newbridge Road	Willow Road Corridor Improvement Project – Alternative C	Install eastbound Willow Road one-way Class IV separated bikeway between Hamilton Avenue and US 101 Willow Road Interchange. Install westbound Willow Road one-way Class IV separated bikeway between Dumbarton Rail Corridor and US 101 Willow Road interchange.
38.	Willow Road and Hamilton Avenue	Willow Road Corridor Improvement Project	Modify southbound Hamilton Avenue to shared left-through lane and time-of-day limited right turn lane. Implement evening peak period parking restriction on the west side of southbound Hamilton Avenue. Modify northbound and southbound Hamilton Avenue to split phase.
39.	Willow Road & Ivy Drive	Willow Road Corridor Improvement Project	Install right-turn overlap on southbound Ivy Drive and restrict eastbound Willow Road U-turns. Widen pedestrian refuge island to match crosswalk width on east Willow Road leg. Convert existing crosswalks to high-visibility crosswalks. Extend pedestrian crossing times.

Table 4.6-1. City of Menlo Park Recommended TMP Projects

TMP Project No.	Location	Project	Project Details
40.	Willow Road & O'Brien Drive	Willow Road Corridor Improvement Project	Install curb ramps at all corners of the intersection. Install high-visibility crosswalks on all legs and add pedestrian signals (including new crosswalks crossing Willow Road). Install bulb-outs into O'Brien Drive on northeast and southeast corners.
41.	Willow Road & Newbridge Street	Willow Road Corridor Improvement Project	Convert existing crosswalks to high-visibility crosswalks. Modify signal timing to lead-lag operation on Newbridge Street with the leading left-turn phase on the southbound Newbridge Street approach and lagging left-turn phase on the northbound Newbridge Street approach.
50.	Willow Road between Bayfront & Newbridge Street	Willow Road Corridor Improvement Project	Work with Caltrans to modify signal timing at Caltrans intersections to include All-Red clearance time.
157	Citywide	Enhanced Bicycle and Pedestrian Detection	Install bicycle and pedestrian detection at intersections to efficiently serve residents and visitors traveling via alternative modes.
158	Citywide	Adaptive Traffic Control System Operations & Maintenance	Adaptive Traffic Control System O&M to better serve residents and guests traveling throughout the city. Adaptive signaling utilizes real-time data at signalized intersections rather than conventional pre-programmed, daily signal timing schedules.
159	Citywide	Automated Traffic Signal Performance Measurement	Automated Traffic Signal Performance Measurement (ATSPM) provides a way to collect data for use in evaluating performance measures. Data from the ATSPM software is used to provide more efficient signal timing plans, targeted repairs and maintenance resulting in increased safety and improved traffic operations.
176	Citywide	Willow Road Relinquishment	Evaluate relinquishment of Willow Road by Caltrans from Bayfront Expressway to Bay Road.
196	Citywide	Update Crosswalk Policy	Update crosswalk policy to identify potential RRFB locations and priority.

4.6.3 Thresholds of Significance

The significance criteria used to evaluate the Project's impacts to transportation are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to transportation would occur if the Project would:

1. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

2. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.
5. Result in cumulatively considerable transportation impacts.

4.6.4 Impacts and Mitigation Measures

Project Traffic

The Project would include demolition of two existing office and warehouse buildings, and construction of two R&D office buildings and an accompanying parking garage.

Trip generation estimates for the Proposed Project are based on daily and AM and PM peak hour trip generation rates obtained from the ITE Trip Generation Handbook, 11th Edition (2021). In order to accurately represent the Proposed Project's trip generation, trips generated from the existing land uses that the Project would replace were calculated and subtracted resulting in the net Project trip generation. Existing buildings were treated as fully occupied for this purpose, even if at the time of the NOP there was vacant space. This approach has been upheld by court decisions, based on the fact that the space could be reoccupied with similar uses without new discretionary approvals or CEQA review. Consistent with the City of Menlo Park City Ordinance 1026, and C/CAG requirements, a reduction was applied to account for the proposed TDM Plan (Appendix M2) that the Project would be required to provide. The TDM Plan would be expected to achieve at least a 35% reduction of daily and peak hour vehicle trips. Table 4.6-2 displays the Proposed Project trip generation estimates.

Table 4.6-2. Project Trip Generation

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates ¹									
Mini-Warehouse	151	per TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15
Research and Development Center	760	per TSF	11.08	0.84	0.19	1.03	0.16	0.82	0.98
Trip Generation of Existing Uses									
985 O'Brien Drive – Mini-Warehouse	151	10.022 TSF	14	1	0	1	1	1	2
985 O'Brien Drive – R&D	760	10.022 TSF	111	8	2	10	2	8	10
1001 O'Brien Drive – R&D	760	20.542 TSF	228	17	4	21	3	17	20
1320 Willow Road – Mini-Warehouse	151	50.045	73	3	2	5	4	4	8
Existing Uses Subtotal ²			426	29	8	37	10	30	40

Table 4.6-2. Project Trip Generation

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Generation of Proposed Project									
1005 O'Brien Drive – R&D	760	154.581 TSF	1,713	131	28	159	24	127	151
1320 Willow Road – R&D	760	73.500 TSF	814	62	13	75	11	61	72
Proposed Project Subtotal			2,527	193	41	234	35	188	223
TDM Plan: 35% Reduction ³			-884	-68	-14	-82	-12	-66	-78
Proposed Project Total			1,643	125	27	152	23	122	145
Total Net Project Trip Generation (Proposed – Existing)			1,217	96	19	115	13	92	105

Sources: ITE 2021, Appendix M2.

Notes: TSF = thousand square feet

Some of the totals may not match exactly due to rounding.

¹ Trip rates from Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.

² A portion of the existing uses may be currently vacant, however, for the purposes of this analysis, all uses were assumed to be fully operational.

³ Consistent with the City of Menlo Park City Zoning Ordinance and C/CAG requirements, a reduction was applied to account for the proposed TDM Plan that the Project would be required to provide. The TDM Plan specifies that a 36% reduction in VMT is possible using the C/CAG TDM Mitigation score sheet for large, transit proximate, non-residential uses such as the Project. However, to provide a conservative analysis, a 35% reduction is utilized throughout the analysis, therefore, the TDM Plan would be expected to achieve at least a 35% reduction of daily and peak hour vehicle trips.

As shown in Table 4.6-2 the Proposed Project, after the application of the 35% reduction through implementation of the TDM Plan as required by C/CAG and the Municipal Code, would generate 1,643 daily trips, 152 AM peak hour trips (125 inbound and 27 outbound), and 145 PM peak hour trips (23 inbound and 122 outbound). After subtracting for the existing land uses, the Proposed Project's net trip generation would be 1,217 daily trips, 115 AM peak hour trips (96 inbound and 19 outbound), and 105 PM peak hour trips (13 inbound and 92 outbound).

Project trip distribution percentages are based on logical travel paths to and from the Project site, as well as consideration of existing major routes of travel. The trip distribution assignments reflect subtracting the trips from existing land uses within the Project site and adding the trips from the proposed land uses. The net trip distribution assignment is shown in Figure 4.6-4. The Project's trip distribution percentages were approved by the City's Public Works Department prior to the completion of the transportation analysis and the TIA.

Project Impacts

Impact 4.6-1: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Table 4.6-3 summarizes the Proposed Project's consistency with applicable programs, plans, policies, or ordinances addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Table 4.6-3. Applicable Programs, Plans, Ordinances, or Policies Addressing the Circulation System

Program, Plan, Ordinance, or Policy	Project Evaluation
Plan Bay Area 2050	The Proposed Project would be consistent with the goals and policies contained in Plan Bay Area 2050 and would provide two new R&D buildings for local jobs, consistent with the land use and zoning designations for the Project site. The Proposed Project is located in an area with adequate bicycle and transit facilities that would further facilitate a lower reliance on single-occupancy automobile use. All transit, bicycle, and pedestrian facilities in the vicinity are described above. The Proposed Project would also develop and implement a TDM plan to provide trip reduction measures and reduce vehicle traffic within and near the Proposed Project site. The Project would be required to also install bicycle facilities to promote active commuting.
C/CAG Congestion Management Program	Under SB 743, LOS, or vehicle delay, will no longer be considered an environmental impact under CEQA, therefore any analysis as it related to LOS standards is informational. According to the TIA (Appendix M1), since the Proposed Project would generate fewer than 100 peak hour trips along regional CMP freeway facilities (i.e., US-101), no Congestion management Program analysis is required.
City of Menlo Park General Plan Circulation Element Policies	<p>The City's Circulation Element policies are described above in Section 4.6.2. The Proposed Project would provide safe and convenient access to existing bicycle and pedestrian facilities, as well as provide adequate pedestrian facilities on-site and along the Project's frontage. Site access would be provided to all users, including accommodations for persons with disabilities, persons with mobility challenges, and all travel modes. The Proposed Project would ensure equitable use of roads and pedestrian space for all users would be provided by the pedestrian and bicycle facilities within and near the Project site.</p> <p>All site circulation, emergency access, and overall roadway safety metrics are evaluated within this section and the Project has been found to result in less than significant impacts. The Project's TDM Plan (Appendix M2) would provide additional measures to reduce automobile trips within the surrounding roadway network, reduce vehicle emissions and greenhouse gases. All intersections that exceed the LOS standards are described below, for informational purposes only.</p>
City of Menlo Park Municipal Code Section 16.44.090	As mandated by ordinance, the Proposed Project would implement a TDM Plan (Appendix M2) to reduce vehicle trips to at least 20 percent below standard trip generation rates. The details of the TDM Plan are provided below and provide reductions to meet both City of Menlo Park requirements as well as C/CAG requirements.
City of Menlo Park Transportation Master Plan	The Proposed Project would be consistent with the TMP projects surrounding the Project site. Specifically, TMP Project 37, the Willow Road Corridor Improvement Project – Alternative C, calls for the installation of a one-way Class IV separated bikeway on Willow Road in the eastbound direction between Hamilton Avenue and US

Table 4.6-3. Applicable Programs, Plans, Ordinances, or Policies Addressing the Circulation System

Program, Plan, Ordinance, or Policy	Project Evaluation
	101/Willow Road Interchange. Based on the City's Class IV bikeway standard design, there is adequate right-of-way (ROW) within the existing bike facilities on the Project's Willow Road frontage (7 foot width) to re-stripe it from the existing Class II bike lane with a 4.5 foot bike lane and 2.5 foot buffer lane to a Class IV bikeway with a 5 foot bike lane and 2 foot buffer lane with vertical separators. This re-stripping project would be the City's responsibility, and the Project would not be required to provide additional ROW.
City of Menlo Park Complete Streets Policy	The Proposed Project would be consistent with the City's commitment to provide safe and convenient travel for all road users. The Proposed Project would not introduce new features or roadway designs that would be inhibit access for all road users within the City. The Proposed Project would be required to add street frontage improvements including sidewalks and bicycle lanes, supporting this policy.
City of Menlo Park Neighborhood Traffic Management Plan	The Proposed Project would provide R&D uses and include a parking structure and two points of access from existing roadways, as well as a connection to the onsite circulation facilities on the adjacent property.
City of Menlo Park Transportation Impact Fee	The Proposed Project is subject to all transportation impact fees and would contribute to the cost of new transportation infrastructure associated with the development of the Proposed Project.

The Proposed Project would also comply with all existing regulations, including general plan and zoning regulations. The City's Public Works Department would review the Project site plan for conformance with all standards and guidelines. The Project would be constructed according to all City specifications and requirements. Therefore, as described in Table 4.6-3, the Proposed Project would be consistent with all relevant programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, and this impact would be **less than significant**.

Mitigation Measures

No MMs are required.

Impact 4.6-2: Would the Project exceed an applicable VMT threshold of significance?

Implementation of the Proposed Project would not exceed an applicable VMT threshold of significance with implementation of the proposed TDM Plan (Appendix M2). This impact would be **less than significant**.

VMT Significance Threshold

According to City VMT guidelines, the evaluation of non-residential land use is based on a daily VMT per employee metric. Using the City's Travel Demand Model that has been customized for City's transportation analysis as described in detail under the VMT Analysis discussion, this metric is calculated only for home-

based work/employee trips, per OPR’s technical advisory. Based on the latest citywide travel demand model, regional average employee VMT is 15.9 per employee. Therefore, the City’s employee VMT impact threshold is 13.6 daily VMT per capita to achieve a 15% reduction from the regional average.

VMT Analysis

The VMT analysis relies on the citywide travel demand forecast model. The model is a mathematical representation of travel within the nine Bay Area counties, as well as Santa Cruz, San Benito, Monterey, and San Joaquin counties. The base model structure was developed by MTC and further refined by C/CAG and Santa Clara Valley Transportation Authority for use within San Mateo County and Santa Clara County. The City further refined this model for application with Menlo Park to add more detail to the zone structure and transportation network. The model has a base year of 2019 and a near-term year of 2027 for cumulative projects traffic forecast to include the pending developments in the City of Menlo Park, City of East Palo Alto and City of Palo Alto (as of December 2022).

There are four main components of the model: 1) trip generation, 2) trip distribution, 3) mode choice, and 4) trip assignment. The model uses socioeconomic inputs (i.e., population, income, employment) aggregated into geographic areas, called transportation analysis zones (TAZ) to estimate travel within the model area. There are 81 TAZs within the model to represent the City of Menlo Park. The model was used to estimate the Proposed Project’s effect on VMT in accordance with the City’s VMT guidelines.

The most readily available long-range forecast year is 2040, which assumes buildout of the City of Menlo Park General Plan and any pending General Plan Amendments, the RHNA 6th cycle Housing Element Update, the recently approved 123 Independence Drive, Willow Village and the Parkline projects, buildout of the pending developments in the City of East Palo Alto (as of December 2020), and regional growth projected by the Association of Bay Area Governments (ABAG), modified by the Santa Clara Valley Transportation Authority and C/CAG for model land use inputs. Therefore, the Project’s VMT analysis was conducted under year 2040 conditions. The Project’s VMT summary is provided in Table 4.6-4.

Table 4.6-4 Vehicle Miles Traveled Summary

Land Use / VMT Metric	Regional Average	VMT Threshold (15% below Regional Average)	Project VMT	VMT Impact	VMT Reduction needed
R&D/per employee	15.9	13.6	19.0	Yes	28.4%

Source: Hexagon 2022.

A Project-specific model run was conducted and the Project’s employee VMT was extracted from the TAZ. The Project’s VMT was estimated to be 19.0 VMT per employee. The regional average VMT per employee is 15.9 and the threshold is 13.6 VMT per employee for the City. Therefore, the Project VMT exceeds the VMT significance threshold by 28.4%.

The estimated Project VMT does not account for the Project's proposed TDM Plan (Appendix M2). Without any TDM measures, the Project's employees may cause substantial additional VMT. However, as shown below, with the implementation of a TDM Plan, the Project's VMT impact would be less than significant.

The Project's TDM Plan would need to achieve a minimum 28.4% reduction in VMT to reduce the proposed Project's impacts to less-than-significant levels, which is greater than the 20% reduction in vehicle trips required by Section 16.44.090 of the Menlo Park Municipal Code but less than the 35% reduction in vehicle trips per the C/CAG requirements for large transit proximate non-residential projects. As demonstrated in Table 4.6-5, up to a 36% reduction in VMT is possible using the C/CAG TDM Score Sheet for such projects. To provide a conservative analysis, a 35% reduction is utilized throughout the analysis per the C/CAG minimum requirements.¹ The TDM measures to be implemented by the Project include programs that would be created and implemented by the Proposed Project's Property Manager or designated Transportation Coordinator. The Project's proposed TDM measures and their expected effectiveness are identified in Table 4.6-5. As shown, the proposed TDM Plan (Appendix M2) is expected to achieve at least a 35% reduction in Project-generated VMT.

Under the C/CAG TDM Policy, the Project would be required to implement a TDM Plan achieving at least a 35% reduction from gross ITE trip generation rates (as shown in Table 4.6-2, Project Trip Generation, the required reduction equals 884 daily trips). As noted in the California Air Pollution Control Officers Association Handbook, when estimating VMT or GHG reductions in the transportation sub-sector, the adjustment factor from vehicle trips to VMT is 1. This assumes that all vehicle trips will average out to a typical trip length (in other words, it is assumed that all trip lengths are equal). Thus, it can be assumed that a percentage reduction in vehicle trips will equal the same percentage reduction in VMT. Additionally, daily trips generated by a project is a metric that can be measured and periodically reviewed using the TDM plan. As required by the City's TDM Program Guidelines, the building owner must provide annual reporting to the City to demonstrate that TDM measures are being appropriately and effectively implemented. The proposed TDM Plan identifies that a Transportation Coordinator would be required to prepare, implement, monitor, and report on the Project's TDM Plan to the satisfaction of the City's Transportation Manager and per the requirements of Menlo Park Municipal Code Section 16.44.090 and the C/CAG TDM Policy regarding TDM monitoring and reporting. The TDM Plan reporting would include annual commute surveys, annual driveway counts and annual reporting to demonstrate that the C/CAG 35% daily trip reduction requirement has been achieved. If the reduction has not been achieved in the reporting period, the annual report is required to provide additional measures that would be implemented in the coming year in order to achieve the C/CAG requirement.

¹ As noted above, after this analysis was performed the Applicant submitted an updated TDM plan dated January 31, 2024, which describes that the Project TDM can achieve an additional 1% reduction (36% overall reduction) under the C/CAG methodology described in *Transportation Demand Management Policy Update Approach*. Therefore, the analysis in this chapter based on 35% is more conservative than expected reductions. In addition, the January 2024 update also includes analysis using methodology prescribed by the California Air Pollution Control Officers Association (CAPCOA) in *Quantifying Greenhouse Gas Mitigation Measures*, which estimates that the project will achieve a 39.1% reduction using that methodology. This chapter relies on the more conservative C/CAG methodology. Both the C/CAG and CAPCOA documents describe a methodology for calculating trip reductions, VMT reductions, and emissions reductions provided by TDM measures based on various relevant data sources, reports, and studies around the world. These documents are incorporated by reference and can be found at <https://www.aqmd.gov/docs/default-source/ceqa/handbook/capcoa-quantifying-greenhouse-gas-mitigation-measures.pdf> (CAPCOA) and https://ccag.ca.gov/wp-content/uploads/2021/06/Final-Draft-CCAG_TDM-Policy-Update-Approach-Draft-6-10-2021.pdf (C/CAG).

Table 4.6-5 TDM Measures and Associated Trip Reduction

TDM Measure		Description	Estimated Trip Reduction
1	Free/Preferential Parking for Carpools	Provide free or preferential parking, including reserved spaces or spaces near an entrance or in another desirable location, to incentivize ridesharing.	1.0%
2	TDM Coordinator	In addition to, or in place of a building-wide Commute Assistance Center, a TDM Coordinator can be appointed by each building tenant. This representative is responsible for implementing the TDM Plan within its organization, with responsibilities that may include distributing transit and commute alternative information, conducting an annual commuter survey, and preparing an annual report summarizing the TDM Plan activities and performance.	0.5%
3	Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent	<p>Sites shall register with Commute.org or else join or create a Transportation Management Association (TMA) with equivalent TDM service, whose role is to coordinate transportation-related programs and services in specific geographic areas. Notably, for Large Non-Residential (Office, Industrial, Institutional, as well as Medical & Lodging) projects categorized as Transit Proximate there are five components an applicant must fulfill to satisfactorily implement this measure:</p> <ol style="list-style-type: none"> 1. Obtain certification of participation with Commute.org, or equivalent program. 2. Provide commute assistance or ride-matching program. 3. Provide (or fund) a dedicated shuttle program/consortium or equivalent transit service. 4. Provide Guaranteed Ride Home 5. Supply orientation, education, and promotional programs and/or materials for tenants 	16.5%
TDM Measure 3 Details			
<i>Number</i>	<i>Name</i>	<i>Description</i>	<i>Estimated Trip Reduction</i>
3a	Certified participation in Commute.org, or equivalent program such as TMA	See above	4.0%

Table 4.6-5 TDM Measures and Associated Trip Reduction

TDM Measure			Description	Estimated Trip Reduction
	3b	Commute assistance and ride-matching	Establish a commute assistance program to provide individualized trip planning services. These services can help employees and residents understand the range of transportation options available to them based on their commute patterns. Ride-matching services aim to find carpools or vanpools for employees or residents with similar commute patterns. Dynamic ridesharing apps are increasing in popularity and allow for ride-matching on a day-by-day basis.	1.0%
	3c	Shuttle Program/ Shuttle Consortium/ Fund Transit Service	Establish a shuttle service to regional transit hubs, commercial centers, or residential areas. Shuttle service should be provided free of charge to residents, employees, and guests. Alternatively, a project site may buy into a shuttle consortium with neighboring developments to pool resources and run shuttle services to multiple nearby sites. Developers may also fund enhanced transit service to/from their project site in collaboration with SamTrans	10.0%
	3d	Guaranteed Ride Home (GRH)	Offer employees a GRH program to provide an occasional subsidized ride to commuters who use alternative modes, for example, if a bus rider must return home in an emergency, or a car pooler must stay at work later than expected. This addresses a common objection to the use of alternative modes. In San Mateo County, a countywide GRH program is managed by Commute.org. This program is open to all persons with a workplace in San Mateo County or students who commute to a participating college in San Mateo County	0.5%
	3e	Orientation, Education, Promotional Programs and/or Materials	Offer new employees or residents an orientation or education program or materials. This should explain the importance of trip reduction methods and	1.0%

Table 4.6-5 TDM Measures and Associated Trip Reduction

TDM Measure		Description	Estimated Trip Reduction
		provide information on alternative transport mode options available at the site, including transit schedules, maps, and trip planning. These orientation or education programs and materials can also highlight transportation-focused benefits or amenities available to employees or residents, such as pre-tax benefits, car share, bike share, or shuttle services.	
4	Carpool or Vanpool Program	Carpool and vanpooling are types of ridesharing that seek to allow vehicles to carry additional passengers when making a trip, with minimal additional mileage. Carpooling generally uses participants' own automobiles. Vanpooling generally uses leased vans (often supplied by employers, non-profit organizations, or government agencies). Carpool and vanpool programs may receive financial incentives from property managers or employers, as well as ride-matching services to help facilitate these shared trips.	2.0%
5	Transit or Ridesharing Passes/Subsidies	Offer public transit passes or subsidies; or carpool/vanpool subsidies to tenants' equivalent to 30% of the value of their monthly fare or \$50 monthly, to incentivize transit use and ridesharing and comply with regional environmental sustainability goals. NOTE: Funding contributions towards and/or participation in Commute.org shuttle program does not count for this measure. Passes/subsidies provided must be valid for public transportation options, including but not limited to BART, Caltrain, SamTrans, and ridesharing platforms and vanpool subscription (or costs)	10.0%
6	Pre-Tax Transportation Benefits	Allow employees to participate in a pre-tax transit and parking benefits program to save money and encourage the use of sustainable transportation modes. In the Bay Area, the Bay Area Air Quality Management District (BAAQMD) requires that employers with 50+ employees within the air district provide commuter benefits.	1.0%
7	Secure Bicycle Storage	Provide safe and convenient long-term (Class I) bicycle parking. Long-term bicycle parking should offer protection from weather and convenient access to and from the street, without the need to use stairs and with doorways and corridors that are sufficiently wide to navigate with a bicycle. Short term (Class	1.0%

Table 4.6-5 TDM Measures and Associated Trip Reduction

TDM Measure		Description	Estimated Trip Reduction
		II) bicycle parking should be near pedestrian entries and may be in the public right-of-way. Short term bicycle parking may be used for visitors, couriers, or customers, typically for less than two hours.	
8	Showers, Lockers, and Changing Rooms for Cyclists	These amenities serve as end of trip facilities for employees arriving by bike or other active transportation forms. Commuters who bicycle or walk often arrive wet, muddy, or sweaty. Providing employees with a place to shower, change and store clothes can encourage bicycle commuting. Such facilities also benefit employees who exercise during breaks or may occasionally need to wash and change clothes for other reasons.	2.0%
9	Design Streets to Encourage Bike/Ped Access	Design street or roadways that provide travel choices and give people the option to avoid traffic congestion, increasing the overall capacity of the transportation network. Street designs should enable safe access for all users of all ages and abilities. Improving pedestrian and cyclist safety and comfort can increase the use of active transportation for residents or employees of a project site.	1.0%
10	Bike/Scooter Share On-Site	Provide on-site bike share or bicycle fleets. Availability of bikeshare bikes or bicycle fleets reduces the need for individual vehicle ownership and use, which, reduced the number of VMT by individuals. Bike share systems allow for bikes to be rented at one location and returned to another. Bike share systems can play a role in the first or last mile of a commute. Subsidizing or offering complementary bike share memberships, can encourage greater use of the bike share systems and may reduce the barrier for individuals to try bike share. Similarly, on-site fleet bicycles at employer sites allow employees who either drive or a commuter alternative to run errands during the day, using a non-motorized form of transport.	1.0%
TOTAL			36%

Source: Appendix M2.

The required non-residential TDM Plan will include annual monitoring and reporting requirements on the effectiveness of the TDM program. The Project applicant submitted a draft TDM Plan (Appendix M2), which was reviewed by the EIR consultant to confirm the assumptions, methodology, and conclusions are appropriate to support the analysis in this section. The draft TDM Plan contains specific measures that would meet this trip reduction requirement. The draft TDM Plan is subject to City review and approval. If the annual monitoring finds that the TDM reduction is not met, the TDM coordinator will be required to work with City staff to detail next steps to achieve the established TDM reduction. Based on the City's transportation engineer, if needed, there are additional measures that could be added to the TDM that would ensure the required reduction is met. The Project's TDM Plan notes that a TDM plan was proposed and implemented for a similar project on a nearby property at 1305 O'Brien Drive, which is operated by the same applicant as the Proposed Project. The TDM effectiveness for the 1305 O'Brien Drive project has been monitored since 2018. That monitoring demonstrates that the 1305 O'Brien Drive TDM Plan achieved trip reductions between 32 and 57 percent for the AM and PM peak hours in 2018, 2019, and 2021 (Appendix M2). This suggests that the C/CAG methodology provides an accurate estimation of the effectiveness of TDM measures. Additional measures include recommended measures within the above-mentioned categories such as employee programs, parking management, TDM management and administration, transit, shuttle and ridesharing, and site design initiatives. With implementation of the required TDM Plan, the Project's VMT impact would be **less than significant**.

Mitigation Measures

No MMs are required.

Impact 4.6-3: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

As described previously, the Proposed Project would provide a vehicular circulation system within each of the two proposed building lots and would provide access from Willow Road and O'Brien Drive. The 1320 Willow Road lot would be accessed from both Willow Road and O'Brien Drive. Internal drive aisles within the 1320 Willow Road lot would not be connected with the adjacent 1005 O'Brien lot, except for through the parking structure. The 1005 O'Brien lot would be accessed from O'Brien Drive and would be connected to the neighboring parcel via internal drive aisles and Kelly Court to the south.

All Project driveways and access to the Project site would be designed according to the City's standards and guidelines for construction and coordinated with the City's Public Works Department for work done at existing intersections, such as Willow Road and O'Brien Drive. Vehicular queuing is expected to be minimally affected by the Proposed Project, and almost all queues are expected to be within all available storage lengths and would cause nominal changes in existing or future conditions at nearby intersections and roadways. Queues at Driveway A will exceed the available storage length at the eastbound through-right-turn lane movement as the Willow Road/O'Brien Drive intersection is nearby; this should only cause delay to those entering or exiting the site but should not cause delays for cars moving through the intersection. No improvements to alleviate queues at Driveway A are feasible. However, this is not expected to create a roadway safety hazard since peak hour queues are forecast on Willow Road between its closely-spaced intersections of Ivy Drive and O'Brien Drive without the Project (i.e., the Project is not creating the queues). The Project will pay its fees towards the Willow Road Corridor Improvement Project which has planned TIF

improvements along Willow Road including the installation of a Class IV separated bikeway, implementation of on-street parking restrictions during the peak hours, and various pedestrian improvements (e.g., refuge islands and bulb-outs), which would improve overall vehicle, bicycle, and pedestrian safety. At both Project Driveways B and C, the modeled queues may exceed the provided storage length, but both driveways lead to the parking garage entrance thus will not block any internal circulation, and no improvements are necessary.

During construction of the Proposed Project, an Encroachment Permit will be required for any work within the City's right-of-way including the Project frontages and driveways on Willow Road and O'Brien Drive per Municipal Code Section 13.18.020. The Encroachment Permit will require the applicant to disclose details of the proposed construction activities and may require a traffic control plan (to be determined by the City's Public Works Department). The traffic control plan will also require adequate traffic management signage and require construction truck traffic to remain on the most efficient path of travel to all regional and locally signed truck routes. The traffic control plan will require construction truck traffic to avoid all residential areas to the extent possible and follow all local and regional regulations as it relates to operation of heavy vehicles on public roadways. The Proposed Project is a R&D use that is compatible with the R&D nature of the area and would not introduce vehicles, such as farm tractors, heavy machinery and equipment, or oversized haul trucks, that could be incompatible with the other residential, institutional, and commercial uses in the area.

Therefore, as described above, the Proposed Project would not substantially increase hazards due to a geometric design feature or introduction of incompatible uses.

All three Project driveways would provide access to the parking garage located within the Project site. The parking garage structure would consist of two separate entrances, one along the northern edge, and another along the western edge. Vehicles accessing the northern entrance of the parking garage would only be able to enter via Driveway C, while vehicles accessing the western entrance of the parking garage would be able to enter via either Driveway A or Driveway B. The shortest distance from any Project driveway to a parking garage entrance is approximately 300 feet.

As shown in the TIA (Appendix M1), a sight distance analysis was conducted using the methodology from the Caltrans Highway Design Manual (HDM) (2020). Stopping sight distance is the distance needed for a vehicle traveling at a specified design speed to react, assess, and then stop when an object crosses its path of travel. The Caltrans HDM provides minimum sight distance standards for intersections, however at certain locations and instances, sight distance greater than the stopping sight distance is desirable to allow time for decisions without making last minute erratic maneuvers. The Caltrans HDM refers to the American Association of State Highway Transportation Officials' (AASHTO 2018) – Geometric Design of Highways and Streets ("Green Book") as a reference for such cases. Therefore, the AASHTO criteria are more conservative than the sight distance standards listed in the Caltrans HDM and stopping sight distance for Project access driveways was determined by using methodology provided in AASHTO.

The posted speed limit on O'Brien Drive is 25 mph and the posted speed limit along Willow Road is 40 mph; therefore, the design speed in the Project vicinity was assumed to be 25 and 40 mph, respectively. The stopping sight distance for O'Brien Drive is 155 feet, and the stopping sight distance for Willow Road is 305 feet. For vehicles exiting along O'Brien Drive and along Willow Road at all Project Driveways, the stopping sight distance analysis shows that there are limited impediments for vehicles. The City's Public Works

Department routinely inspects and maintains street trees such that overhanging trees/vegetation would not limit sight distance. All of the Proposed Project's driveways would be evaluated by the City's Public Works Department as part of the standard design review process and would be constructed according to all City specifications.

The Proposed Project would not substantially increase hazards due to a geometric design feature or introduce incompatible uses and this impact would be **less than significant**.

Mitigation Measures

No MMs are required.

Impact 4.6-4: Would the Project result in inadequate emergency access?

The Proposed Project would provide three vehicular driveways. The northern driveway located along Willow Road and the northwest driveway located along O'Brien Drive would provide access to the northern portion of the Project site and the northern parking garage entrance. The southwestern driveway located along O'Brien Drive would provide access to the western portion of the Project site and the western parking garage entrance.

All driveways (internal and entrances) would have a total width of 26 feet and would serve as an emergency vehicle access entrance and exit. Within the 1320 Willow Road lot, there is a firetruck turn around area for emergency vehicles to maneuver within the lot. The fire district will review the proposed site plan, including fire hydrant placement and emergency vehicle access, prior to issuance of building permits. Along Willow Road and O'Brien Drive, there is adequate width for emergency vehicles to access adjacent properties and for other vehicles to safely pull over and yield to emergency vehicles. The Proposed Project would not result in inadequate emergency access to adjacent parcels or properties within the study area. The vehicular circulation network would not change and overall emergency response to adjacent properties would remain adequate. Therefore, the Proposed Project would not result in inadequate emergency access, and this impact would be **less than significant**.

Mitigation Measures

No MMs are required.

Cumulative Impacts

Impact 4.6-5: Would the Project result in cumulatively considerable transportation impacts?

Conflicts with a Program, Plan, Ordinance, or Policy Addressing the Circulation System

All future development would be required to comply with applicable state, regional, and local regulations and policies, including the General Plan and zoning regulations. Future developments would be required to minimize impacts to the transportation and circulation of the City's roadway network. The ConnectMenlo General Plan Update included adoption of several transportation policies to limit potential cumulative transportation impacts caused by projects within the City. The Proposed Project and all other pending and future projects within the City are required to comply with these policies, which address the topics of

ensuring a safe transportation system, complete streets, sustainable transportation, health and wellness (through transportation enhancements), transit opportunities, transportation demand management, and parking.

The ConnectMenlo EIR evaluated consistency with plans, ordinances, and policies relating to vehicle transportation in Impact TRANS-1 and considered consistency with the County CMP in Impact TRANS-2. As required by the CEQA Guidelines at the time that the ConnectMenlo EIR was prepared, the analysis in Impacts TRANS-1 and TRANS-2 focused on potential changes in intersection and roadway segment levels of service. As discussed previously, changes in the CEQA Guidelines preclude consideration of level of service as an environmental effect. Refer to Section 4.6.5, Non-CEQA Analysis, for information regarding level of service. As noted in Table 4.6-3, since the Proposed Project would generate fewer than 100 peak hour trips along regional CMP freeway facilities (i.e., US-101), no CMP analysis is required.

Implementation of the land use and transportation changes described in ConnectMenlo would create a built environment that supports a live/work/play environment with increased density and diversity of uses and a street network that supports safe and sustainable travel. The updates to the City's Circulation Element adopted under ConnectMenlo include a new emphasis on complete streets, multi-modal transportation, community circulation benefits from private development, transportation system safety and efficiency, and community transit services. This is expected to reduce VMT per capita within the Project vicinity. In addition, all other future development projects in the City would be required to comply with existing regulations, including General Plan policies and zoning regulations that have been adopted to minimize environmental effects related to transportation and circulation.

The City would implement the General Plan programs that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes and bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., VMT per capita, traffic volumes) and safety (e.g., collision rates) standards, amongst others as listed above. Furthermore, implementation of zoning regulations would support adequate facilities and access to transportation and future development would be consistent with the City's Transportation Master Plan.

The Proposed Project is consistent with the land use and zoning designations assigned to the Project site under ConnectMenlo. As discussed in Section 4.0, Environmental Analysis, recently approved and pending projects in the Bayfront Area would result in more multifamily dwelling units in this area than were assumed in the ConnectMenlo EIR. However, the TDM plans for each individual project would provide the necessary reductions in VMT to ensure that the conclusions of the ConnectMenlo EIR regarding cumulative impacts associated with potential conflicts with programs, plans, ordinances, and policies addressing the circulation system would remain valid. The City's General Plan programs, policies, and goals would be implemented to the 2040 Cumulative Year and would be monitored for additional updates as needed. Therefore, the Proposed Project, and all pending and future projects in the cumulative development scenario would not conflict with any program, plan, ordinance, or policy address the circulation system, and impacts would be **less than significant**.

Pedestrian and Bicycle Facilities

The ConnectMenlo EIR evaluated consistency with plans, ordinances, and policies related to alternative modes of travel in Impact TRANS-6. The ConnectMenlo EIR found that implementation of the ConnectMenlo General Plan Update would not provide adequate pedestrian or bicycle facilities to connect to the area wide circulation system.

ConnectMenlo EIR MM TRANS-6a required updating the City's TIF program to secure funding mechanism for future pedestrian and bicycle improvements to mitigate impacts from future projects based on the current standards at the time the Final EIR was certified but would not reduce the impact to less-than-significant levels. At the time that the ConnectMenlo EIR was certified, the TIF nexus study had not yet been prepared, the City could not guarantee improvements, and no additional MMs were feasible and available. For these reasons, impacts to bicycle and pedestrian facilities were considered significant and unavoidable. Recently, the City's TIF program was updated and approved by the City Council. The City's Transportation Master Plan has also been updated and approved by the City Council. Payments collected as part of the City's TIF program would mitigate impacts to cumulative pedestrian and bicycle facilities. The Proposed Project would create public pedestrian and bicycle facilities near the Project site where currently there is no sidewalk or bicycle facilities. Therefore, there is no cumulative impact to pedestrian and bicycle facilities to which the Project could contribute, and this impact would be **less than significant**.

Transit Facilities

The ConnectMenlo EIR found that implementation of the ConnectMenlo General Plan Update would generate a substantial increase in transit riders that could not be adequately serviced by existing public transit services, and implementation of ConnectMenlo would generate demand for transit services at sites more than one-quarter mile from existing public transit routes.

ConnectMenlo EIR MM TRANS-6b required updates to the City's existing Shuttle Fee program to guarantee funding for operation of City-sponsored shuttle service that is necessary to mitigate impacts from future projects based on the then current City standards. However, because the nexus study had not yet been prepared, the City could not guarantee improvements, and no additional MMs were feasible and available, impacts to transit were considered significant and unavoidable.

The ConnectMenlo EIR also found that implementation of ConnectMenlo would result in increased peak hour traffic delay at intersections on Bayfront Expressway, University Avenue, and Willow Road that could decrease the performance of transit service and increase the cost of transit operations. As discussed in Section 4.6.5, the Proposed Project would contribute to increased delays at the Willow Road/Bayfront Expressway intersection, the University Avenue/Bayfront Expressway intersection, and the University Avenue/O'Brien Drive intersection. The City's TIF Program was updated and now includes a project to assist, via payment of TIF fees, in the construction of a Bayfront Expressway Multimodal Corridor Project, which would alleviate the increased delays at the Bayfront Expressway intersections with Willow Road and University Avenue such that transit service would not be significantly adversely affected. TIF-funded components of the Bayfront Expressway Multimodal Corridor Project that would improve transit delays include: a shoulder-running bus lane with Transit Signal Priority (TSP) at signalized intersections with Bayfront Expressway. Thus, the Project would not make a cumulatively considerable contribution to transit service, and this impact would be **less than significant**.

Vehicle Miles Traveled

Consistent with OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA, a project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. An efficiency-based threshold applies only to the Proposed Project without regard to the VMT generated by the previously existing land use.

The Proposed Project would be consistent with the development assumptions included in ConnectMenlo. Implementation of the land use and transportation changes described in ConnectMenlo would create a built environment that supports a live/work/play environment with increased density and diversity of uses and a street network that supports safe and sustainable travel and is expected to reduce VMT per capita. The Proposed Project would provide R&D buildings that would support employment opportunities within the Bayfront Area. Other recently approved and pending projects would provide additional housing opportunities proximate to the Project site. With implementation of individual TDM Plans and continued consistency with the land use and zoning designations throughout the Bayfront Area, it is expected that regional VMT would continue to decrease over time and there would be no significant cumulative VMT impact to which the Project could contribute. Thus, the Proposed Project, in combination with other projects in the cumulative year 2040 scenario, would have a **less than significant** cumulative impact with respect to VMT.

Substantial Increase of Hazards Due to a Geometric Design Feature or Incompatible Uses

As discussed in the ConnectMenlo EIR, development projects within the City would be required to evaluate hazardous conditions and follow all relevant zoning requirements to ensure that incompatible uses are limited and that roadway improvements would be designed according to City standards and subject to existing regulations that are aimed at reducing hazardous conditions with respect to circulation. The City's Public Work's Department would evaluate all development projects and ensure that projects are constructed according to the City's construction standards and specifications. The ConnectMenlo EIR found that buildout of the General Plan would result in less-than-significant impacts with respect to hazards due to design features or incompatible uses. Thus, there would be no significant cumulative impact to which the Project could contribute, and the Project would not combine with past, present, and foreseeable future projects to create such impact; therefore, impacts associated with transportation system hazards would remain **less than significant**.

Emergency Access

The ConnectMenlo EIR found that the ConnectMenlo General Plan Update included policies that would ensure efficient circulation and adequate access are provided in the city, which would help facilitate emergency response. All future development projects would be required to comply with all City regulations and would be subject to site plan review as part of the City's project approval process. The Fire Department would review certain projects and together with the policies and goals as outlined in the City's General Plan, which would ensure that minimal impacts result to emergency access and there would be no significant

cumulative impact to which the Project could contribute. The Project is consistent with ConnectMenlo. Therefore, cumulative impacts associated with emergency access would remain **less than significant**.

Mitigation Measures

No MMs are required.

4.6.5 Non-CEQA Analysis

Intersection Level of Service Analysis

Although the City of Menlo Park adopted VMT thresholds into their TIA Guidelines, the City continues to require LOS analysis for informational purposes to use in evaluating the Project's conformance with the General Plan. LOS is commonly used as a qualitative description of intersection operations and roadway segments and is based on the design capacity of the intersection configuration and roadway facility, compared to the volume of traffic using the facility. Compliance criteria identified in the ConnectMenlo General Plan Update Circulation Element (City of Menlo Park 2016) and the City of Menlo Park Traffic Impact Analysis Guidelines (City of Menlo Park 2020a) were used to evaluate the Project's compliance with the City's policies on intersection LOS. Thresholds vary depending on street classification and location of the intersection in relation to state (Caltrans) facilities. Potential improvements that could bring the Proposed Project into conformance with Circulation Policy 3.4 (strive to maintain LOS D at all City controlled intersections, except at the intersection of Ravenswood Avenue and Middlefield Road and at intersections along Willow Road from Middlefield Road to US 101) are also identified. Implementation of any such measures would require review and approval by City decision makers and implementation through Project conditions of approval.

This intersection LOS analysis is provided in this section for informational purposes only. The analysis relies on the methodology presented in the City's TIA Guidelines for intersection LOS analysis, as discussed further in the TIA (Appendix M1).

Near Term (2027) Plus Project Conditions

This section details the Near-Term (2027) intersection and roadway segment operations within the study area with and without the addition of Project traffic. The analysis represents the anticipated conditions in the study area assuming the Proposed Project is constructed and fully occupied.

Table 4.6-9 identifies the LOS for each intersection included in the study area under the Near-Term (2027) conditions with and without Project traffic, and whether the Proposed Project could cause the City's LOS standards to be exceeded. With the addition of Project traffic, the following intersections would exceed the thresholds identified in the City's TIA guidelines because the average critical movement delay would be increased by 0.8 seconds or more during AM and/or PM peak hours. As such, the following intersections would be non-compliant with the City's TIA Guidelines under Near Term (2027) plus Project conditions.

- #1 Willow Road/Bayfront Expressway – LOS E in AM peak hour (signalized)
- #2 Willow Road/Hamilton Avenue – LOS F in AM peak hour (signalized)
- #3 Willow Road/Ivy Drive – LOS F in PM peak hour (signalized)

- #4 Willow Road/O'Brien Drive – LOS F in AM and PM peak hours (signalized)
- #5 Willow Road/Newbridge Street – LOS F in AM and PM peak hours (signalized)
- #8 O'Brien Drive/Kavanaugh Drive – LOS F in AM peak hour (unsignalized)
- #9 University Avenue/Bayfront Expressway – LOS E in PM peak hour (signalized)

For Willow Road intersections between Bayfront Expressway and US-101 ramps, the overall delay is reported as OVERSAT (LOS E or F) for oversaturated conditions based on previous simulation models that the increased volumes will cause queuing that extends past multiple intersections and results in oversaturated conditions. Since Intersection #8 (O'Brien Drive/Kavanaugh Drive) is unsignalized and would be non-compliant with the City's TIA Guidelines, further analysis was required. The Manual on Uniform Traffic Control Devices (MUTCD) peak hour signal warrant was met at intersection #8 (O'Brien Drive/Kavanaugh Drive) in both the AM and PM peak hours for both baseline and plus Project conditions.

Cumulative (2040) Plus Project Conditions

This section details the Cumulative (2040) intersection and roadway segment operations within the study area with and without the addition of Project traffic. The cumulative (2040) analysis assumes buildout of the General Plan, full operation of the Proposed Project, and buildout/operation of other approved and pending projects in the cities of Menlo Park, East Palo Alto, and Palo Alto.

Table 4.6-10 identifies the LOS for each intersection included in the study area under the Cumulative (2040) conditions with and without Project traffic and whether the Project could cause the City's LOS standards to be exceeded. With the addition of Project traffic, the following intersections would exceed the thresholds identified in the City's TIA guidelines and increase the average critical movement delay by 0.8 seconds or more during AM and/or PM peak hours. As such, the following intersections would be non-compliant with the City's TIA Guidelines under Cumulative (2040) plus Project conditions.

- #1 Willow Road/Bayfront Expressway – LOS F in AM and PM peak hours (signalized)
- #2 Willow Road/Hamilton Avenue - LOS F in AM peak hour (signalized)
- #3 Willow Road/Ivy Drive - LOS E in PM peak hour (signalized)
- #4 Willow Road/O'Brien Drive - LOS E in AM peak hour; LOS F in PM peak hour (signalized)
- #5 Willow Road/Newbridge Street – LOS F in AM and PM peak hours (signalized)
- #7 Willow Road/US 101 SB Off-ramps – LOS F in AM peak hour (signalized)
- #8 O'Brien Drive/Kavanaugh Drive – LOS F in AM and PM peak hours (unsignalized)
- #9 University Avenue/Bayfront Expressway – LOS F in PM peak hour (signalized)
- #11 University Avenue/O'Brien Drive - LOS F in AM peak hour (signalized)

For Willow Road intersections between Bayfront Expressway and US-101 ramps, the overall delay is reported as OVERSAT (LOS E or F) for oversaturated conditions based on previous simulation models that the increased volumes will cause queuing that extends past multiple intersections and results in oversaturated conditions. Similar to the Near-term (2027) analysis, MUTCD peak hour signal warrant was met at intersection #8 (O'Brien Drive/Kavanaugh Drive) in both the AM and PM peak hours for both baseline and plus Project conditions.

Table 4.6-9. Near Term (2027) Plus Project Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	LOS Method	Critical Approach	Near Term (2027)				Near Term (2027) plus Project				Change in Avg. Delay		Inconsistent w/City Standards?¹		Inconsistent w/TIA Guidelines?²		Near Term (2027) plus Project w/Improvements³			
					AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM	AM	PM	AM Peak		PM Peak	
					Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS							Avg. Delay	LOS	Avg. Delay	LOS
1	Willow Road/Bayfront Expressway	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.6	-2.3	Yes	Yes	Yes	No	44.8	D	N/A	N/A
				SB	N/A	N/A	OVERSAT⁴		N/A	N/A	OVERSAT⁴		N/A	-0.4	No	Yes			47.6	D	N/A	N/A
				NB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.9	0.3	Yes	Yes			40.0	D	N/A	N/A
2	Willow Road/Hamilton Avenue	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		5.2	3.4	Yes	Yes	Yes	No	232.6	F	N/A	N/A
				WB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		4.9	-1.2	Yes	Yes			290.4	F	N/A	N/A
3	Willow Road/Ivy Drive	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		2.1	6.3	Yes	Yes	No	Yes	N/A	N/A	45.2	D
				EB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		-1.4	10.0	Yes	Yes			N/A	N/A	59.0	E
4	Willow Road/O’Brien Drive	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		4.1	42.2	Yes	Yes	Yes	Yes	46.0	D	230.8	F
				NB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		13.7	163.4	Yes	Yes			191.1	F	548.6	F
5	Willow Road/Newbridge Street	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.4	7.5	Yes	Yes	Yes	Yes	162.0	F	175.7	F
				WB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		4.3	21.2	Yes	Yes			279.5	F	188.9	F
6	Willow Road/US 101 NB Off-ramps	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.0	0.7	Yes	Yes	No	No				
				NB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		-0.3	0.1	Yes	Yes	No	No				
7	Willow Road/US 101 SB Off-ramps	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.2	0.0	Yes	Yes	No	No				

Table 4.6-9. Near Term (2027) Plus Project Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	LOS Method	Critical Approach	Near Term (2027)				Near Term (2027) plus Project				Change in Avg. Delay		Inconsistent w/City Standards?¹		Inconsistent w/TIA Guidelines?²		Near Term (2027) plus Project w/Improvements³			
					AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM	AM	PM	AM Peak		PM Peak	
					Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS							Avg. Delay	LOS	Avg. Delay	LOS
				SB	OVERSAT⁴		N/A	N/A	OVERSAT⁴		N/A	N/A	0.1	0.0	Yes	Yes						
				WB	N/A	N/A	OVERSAT⁴		N/A	N/A	OVERSAT⁴		0.0	0.0	Yes	Yes						
8	O'Brien Drive/Kavanaugh Drive	Menlo Park	HCM AWSC		86.7	F	15.2	C	92.3	F	15.4	C	5.6	0.2	Yes	No	Yes	No	84.8	F	N/A	N/A
9	University Avenue/Bayfront Expressway	Menlo Park/State	HCM Signal		24.0	C	69.0	E	24.1	C	70.2	E	0.1	1.4	No	Yes	No	Yes	N/A	N/A	46.1	D
				SB	N/A	N/A	66.2	E	N/A	N/A	67.9	E	N/A	2.0	No	Yes			N/A	N/A	26.1	C
10	University Avenue/Adams Drive	Menlo Park/East Palo Alto/State	HCM TWSC		77.6	F	38.4	E	79.6	F	38.7	E	2.0	0.3	Yes	Yes	No	No				
11	University Avenue/O'Brien Drive	Menlo Park/East Palo Alto/State	HCM Signal		23.4	C	20.5	C	23.5	C	20.5	C	0.1	0.0	No	No	No	No				
			V/C Ratio		0.765	C	0.673	C	0.770	C	0.754	C	0.005	0.081	No	No						
12	University Avenue/Kavanaugh Drive	East Palo Alto/State	HCM Signal		22.1	C	17.9	B	22.2	C	18.0	B	0.1	0.1	No	No	No	No				

Notes: **Bold** – Exceeds LOS threshold.
TWSC = two-way stop control; AWSC = all-way stop control LOS reported for the movement with highest delay.
N/A = not applicable – critical approach information is not relevant. Critical approach information is relevant where the Proposed Project would increase delay over the City’s LOS thresholds.

¹ Inconsistency with City standards is provided for informational purposes only to determine whether intersection LOS meets General Plan standards.

² The City of Menlo Park TIA guidelines indicate that intersections with deficient LOS may result in "...a project [being] considered potentially noncompliant with local policies." The City of Menlo Park has discretion to allow LOS to be exceeded in order to achieve other Circulation Element goals and policies.

³ TIF improvements include adaptive traffic signal coordination along the Bayfront Expressway corridor and the Willow Road corridor which is likely to improve LOS operations; however, the direct effect these improvements would have on LOS is unable to be quantified at this time. Therefore, all physical improvements would be conservative since they do not take into account the effect of the traffic signal improvements along both corridors. Additionally, many physical intersection improvements are considered infeasible due to right-of way (ROW) constraints.

⁴ For Willow Road intersections between Bayfront Expressway and US-101 ramps, the overall delay is reported as OVERSAT (LOS E or F) for oversaturated conditions based on previous simulation models that the increased volumes will cause queuing that extends past multiple intersections and results in oversaturated conditions.

Table 4.6-10. Cumulative (2040) Plus Project Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	LOS Method	Critical Approach	Cumulative (2040)				Cumulative (2040) plus Project				Change in Avg. Delay		Inconsistent w/City Standards?¹		Inconsistent w/TIA Guidelines?²		Cumulative (2040) plus Project w/Improvements³			
					AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM	AM	PM	AM Peak		PM Peak	
					Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS							Avg. Delay	LOS	Avg. Delay	LOS
1	Willow Road/Bayfront Expressway	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.3	-1.8	Yes	Yes	Yes	No	56.4	E	N/A	N/A
				SB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.0	0.7	Yes	Yes			57.4	E	N/A	N/A
				NB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.6	0.3	Yes	Yes			80.3	F	N/A	N/A
2	Willow Road/Hamilton Avenue	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		4.1	3.2	Yes	Yes	Yes	No	243.7	F	N/A	N/A
				WB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		2.9	-1.1	Yes	Yes			280.5	F	N/A	N/A
3	Willow Road/Ivy Drive	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.6	5.2	Yes	Yes	No	Yes	N/A	N/A	50.7	D
				EB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		-1.0	7.8	Yes	Yes			N/A	N/A	48.7	D
4	Willow Road/O'Brien Drive	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		4.4	47.7	Yes	Yes	Yes	Yes	46.2	D	348.1	F
				NB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		11.1	144.3	Yes	Yes			147.2	F	893.2	F
5	Willow Road/Newbridge Street	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.2	6.3	Yes	Yes	Yes	Yes	178.0	F	194.8	F
				WB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		2.9	21.7	Yes	Yes			271.2	F	228.0	F
6	Willow Road/US 101 NB Off-ramps	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.0	0.9	Yes	Yes	No	No				
				NB	OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		0.4	-0.1	Yes	Yes						
7	Willow Road/US 101 SB Off-ramps	Menlo Park/State	HCM Signal		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		OVERSAT⁴		1.0	18.5	Yes	Yes	Yes	No	15.5	B	N/A	N/A
				SB	OVERSAT⁴		N/A	N/A	OVERSAT⁴		N/A	N/A	3.8	0.0	Yes	Yes			22.3	C	N/A	N/A

Table 4.6-10. Cumulative (2040) Plus Project Peak Hour Intersection Level of Service

No.	Intersection	Jurisdiction	LOS Method	Critical Approach	Cumulative (2040)				Cumulative (2040) plus Project				Change in Avg. Delay		Inconsistent w/City Standards?¹		Inconsistent w/TIA Guidelines?²		Cumulative (2040) plus Project w/Improvements³			
					AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM	AM	PM	AM Peak		PM Peak	
					Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS							Avg. Delay	LOS	Avg. Delay	LOS
				WB	N/A	N/A	OVERSAT⁴		N/A	N/A	OVERSAT⁴		0.0	0.0	Yes	Yes			17.1	B	N/A	N/A
8	O'Brien Drive/Kavanaugh Drive	Menlo Park	HCM AWSC		250.0	F	76.7	F	258.0	F	80.6	F	8.0	3.9	Yes	Yes	Yes	Yes	235.7	F	59.2	F
9	University Avenue/Bayfront Expressway	Menlo Park/State	HCM Signal		24.8	C	91.9	F	24.9	C	93.5	F	0.1	1.6	No	Yes	No	Yes	N/A	N/A	51.5	D
				SB	N/A	N/A	99.6	F	N/A	N/A	101.2	F	N/A	1.6	No	Yes			N/A	N/A	26.0	C
10	University Avenue/Adams Drive	Menlo Park/East Palo Alto/State	HCM TWSC		82.1	F	37.1	E	84.5	F	37.6	E	2.4	0.5	Yes	Yes	No	No				
11	University Avenue/O'Brien Drive	Menlo Park/East Palo Alto/State	HCM Signal		149.9	F	32.0	C	153.6	F	32.0	C	3.7	0.0	Yes	No	Yes	No	106.0	F	N/A	N/A
				WB	353.8	F	N/A	N/A	362.8	F	N/A	N/A	8.9	N/A	Yes	No			228.9	F	N/A	N/A
				SB	66.8	E	61.2	E	66.8	E	61.2	E	0.0	0.0	Yes	Yes			66.8	E	N/A	N/A
			V/C Ratio		1.119	F	0.751	C	1.125	F	0.754	C	0.006	0.003	Yes	Yes			1.063	F	N/A	N/A
12	University Avenue/Kavanaugh Drive	East Palo Alto/State	HCM Signal		30.8	C	20.3	C	31.4	C	20.5	C	0.6	0.2	No	No	No	No				

Notes: **Bold** – Exceeds LOS threshold.
TWSC = two-way stop control; AWSC = all-way stop control LOS reported for the movement with highest delay.
N/A = not applicable – critical approach information is not relevant. Critical approach information is relevant where the Proposed Project would increase delay over the City’s LOS thresholds.

¹ Inconsistency with City standards is provided for informational purposes only to determine whether intersection LOS meets General Plan standards.

² The City of Menlo Park TIA guidelines indicate that intersections with deficient LOS may result in "...a project [being] considered potentially noncompliant with local policies." The City of Menlo Park has discretion to allow LOS to be exceeded in order to achieve other Circulation Element goals and policies.

³ TIF improvements include adaptive traffic signal coordination along the Bayfront Expressway corridor and the Willow Road corridor which is likely to improve LOS operations; however, the direct effect these improvements would have on LOS is unable to be quantified at this time. Therefore, all physical improvements would be conservative since they do not take into account the effect of the traffic signal improvements along both corridors. Additionally, many physical intersection improvements are considered infeasible due to right-of way (ROW) constraints.

⁴ For Willow Road intersections between Bayfront Expressway and US-101 ramps, the overall delay is reported as OVERSAT (LOS E or F) for oversaturated conditions based on previous simulation models that the increased volumes will cause queuing that extends past multiple intersections and results in oversaturated conditions.

Recommended Improvement Measures

Table 4.6-11 summarizes recommended measures to improve intersection operations to pre-project conditions or better for both the Near-term (2027) and cumulative (2040) conditions to ensure consistency with the City’s TIA Guidelines and General Plan policies.

ConnectMenlo EIR MM TRANS-1a would require the widening of impacted roadway segments at appropriate locations throughout the city to add travel lanes and capacity to accommodate the increase in net daily trips. Implementation of MM TRANS-1a would improve level of service but would not ensure consistency with General Plan policies.

ConnectMenlo EIR MM TRANS-1b required updates to the City’s TIF program to secure a funding mechanism for future roadway and infrastructure improvements to further improve level of service. The TIF update and an update to the City’s Transportation Master Plan were approved by the City Council in 2020. Several transportation network improvements have been identified in those documents to improve intersection level of service, transit, and pedestrian and bicycle transportation facilities. Where feasible, the recommended intersection improvements listed in Table 4.6-11 generally follow those listed in Appendix C of the City’s TIF Nexus Study and note where additional funding may be necessary to construct recommended improvements that are beyond those in the TIF program.

Table 4.6-11. Summary of Recommended Improvement Measures

No.	Intersection	Jurisdiction	Near Term (2027) Plus Project	Cumulative (2040) Plus Project	Improvement in TIF Fee Program? ¹	Project Responsibility ²
1	Willow Road/Bayfront Expressway	Menlo Park/State	Widen the northbound approach with an additional left-turn lane. These physical improvements would not be feasible. ³	Same ³	Yes - Bayfront Expressway Multimodal Corridor Project	TIF Payment
2	Willow Road/Hamilton Avenue	Menlo Park/State	Reconfigure northbound approach to one northbound through-right turn lane and one northbound left-turn lane. These physical improvements would not be feasible due to potential impacts to bicyclists and bicycle travel.	Same ³	Yes – Willow Road Corridor Improvement Project	TIF Payment
3	Willow Road/Ivy Drive	Menlo Park/State	Install right-turn overlap on southbound Ivy Drive and restrict eastbound Willow Road U-turns.	Same ³	Yes – Willow Road Corridor Improvement Project	TIF Payment
4	Willow Road/O'Brien Drive	Menlo Park/State	Reconfigure northbound approach to two northbound left-turn lanes and one northbound right-turn lane. ⁴ These physical improvements would not be feasible due to potential impacts to bicyclists and bicycle travel.	Same ⁴	Yes – Willow Road Corridor Improvement Project	TIF Payment
5	Willow Road/Newbridge Street	Menlo Park/State	Physical intersection improvements are considered infeasible due to ROW constraints.	Same ³	Yes – Willow Road Corridor Improvement Project	TIF Payment

Table 4.6-11. Summary of Recommended Improvement Measures

No.	Intersection	Jurisdiction	Near Term (2027) Plus Project	Cumulative (2040) Plus Project	Improvement in TIF Fee Program? ¹	Project Responsibility ²
7	Willow Road/US 101 SB Off-ramps	Menlo Park/State	N/A	Install an additional southbound left-turn lane. These physical improvements would not be feasible. ³	Yes – Willow Road Corridor Improvement Project	TIF Payment
8	O'Brien Drive/Kavanaugh Drive	Menlo Park	Install a westbound left-turn lane. ⁵ These physical improvements would not be feasible due to potential impacts to bicyclists and bicycle travel.	Same ⁵	No	None (intersection not in TIF and there are no feasible improvements)
9	University Avenue/Bayfront Expressway	Menlo Park/State	Widen the southbound approach with an additional through lane. These physical improvements would not be feasible. ³	Same ³	Yes - Bayfront Expressway Multimodal Corridor Project	TIF Payment
11	University Avenue/O'Brien Drive	Menlo Park/East Palo Alto/State	N/A	Reconfigure westbound approach to two westbound through lanes and one westbound right-turn lane. These physical improvements would not be feasible. ⁶	No	None (intersection not in TIF and there are no feasible improvements)

Notes:

- ¹ Improvements included in City of Menlo Park Transportation Impact Fee (TIF) program and noted in the City of Menlo Park TIF Nexus Study (January 3, 2020).
- ² Identifies either the Project's responsibility to construct an improvement or contribute fair share towards the implementation of improvements outside of payment to the TIF program. Project responsibility and improvements will be determined in the Project's conditions of approval.
- ³ TIF improvements include adaptive traffic signal coordination along both the Bayfront Expressway corridor and the Willow Road corridor which is likely to improve LOS operations; however, LOS is unable to be quantified at this time. Additionally, physical intersection improvements are considered infeasible due to ROW constraints.
- ⁴ May require right-of-way (ROW) acquisition and/or relocation of utilities and/or mature trees. This approach is also along private ROW.
- ⁵ MUTCD peak hour signal warrants are met under both 2027 and 2040 conditions with the addition of Project traffic.
- ⁶ While there are no feasible physical improvements possible, improvements in the TIF Nexus Study include signalization of #10 (University Avenue/Adams Drive) which may further improve LOS along the University Avenue corridor.

Parking Assessment

The Project would include a total of 520 vehicle parking spaces for employees and visitors. The seven-level parking garage would offer 497 parking spaces, and 23 parking spaces would be provided at surface level. Nine of the garage and four of the surface-level parking spaces would meet Americans with Disabilities Act (ADA) accessibility standards. At the time of construction completion, 15% of the total parking spaces would be equipped with an electric vehicle (EV) charging station (78 spaces) and an additional 30% of the total parking spaces would be “EV Ready,” meaning that conduits would be installed to facilitate adding a charging station in the future (157 spaces).

The Project would include a total of 68 bicycle parking spaces for employees and visitors. Long-term bicycle parking spaces, defined as for use over several hours or overnight, would be provided within enclosed areas in the parking garage and within each of the office buildings. A total of 48 long-term bicycle parking spaces would be provided. Short-term bicycle parking spaces are defined as visitor parking or for use for several minutes to a few hours. The Project would provide 20 short-term bicycle parking spaces near the entrances of each office building and at the sports court.

According to Municipal Code Section 16.44.080, the Project would need to meet the parking requirements for light industrial, R&D land use. The required minimum vehicle parking spaces per 1,000 SF is 1.5 spaces, and the maximum spaces per 1,000 SF is 2.5 spaces. The Project would provide a total of 520 parking spaces, totaling approximately 2.3 spaces per 1,000 SF. Additionally, the Project must provide a minimum of 1 bicycle parking space per 5,000 SF of gross floor area, of which 80% must be viable for long-term parking and 20% must be viable for short-term parking. Meeting these standards would require a total of 55 bicycle parking spaces, with 46 long-term spaces and 9 short-term spaces. The Project would exceed these requirements by providing a total of 68 bicycle parking spaces, which is approximately 1.5 spaces per 5,000 SF, with 48 long-term spaces and 20 short-term spaces. Although long-term spaces would comprise 70% of the total bicycle spaces, the Project would exceed the minimum number of long-term spaces based on the building size. Therefore, the Project would meet the City’s parking requirements. Table 4.6-12 breaks down the number of spaces provided for each required parking type.

Table 4.6-12. Parking Summary

Parking Type	Spaces Required	Spaces Provided
On-Site Vehicle Parking Spaces		
Surface-level Parking	343 – 573 ¹	23
Garage Parking		497
Total Vehicle Parking Spaces	343 – 573	520²
Breakdown of Vehicle Parking Spaces		
Standard Parking		
Surface-level Parking	248 – 420 ³	15
Garage Parking		203
Total Standard Parking Spaces	248 – 420	218
Electric Vehicle (EV) Parking		
EV Charging Station Standard Parking	at least 5% of total (17 – 29) ⁴	78
EV Ready Standard Parking	at least 10% of total (34 – 57) ⁴	157
Total EV Spaces	51 – 86	235
ADA Accessible Parking		
ADA Accessible Surface-level Parking	11	4
ADA Accessible Garage Parking		7
ADA Accessible EV Charging Station Parking	5 – 10	14
Total ADA Accessible Parking	16 – 21	25
Clean Air/Vanpool/Carpool Parking		
Clean Air/Vanpool/Carpool Surface-level Parking	28 – 46	0
Clean Air/Vanpool/Carpool Garage Parking		42
Total Clean Air/Vanpool/Carpool Parking	28 – 46	42
Vehicle Parking Totals	343 – 573	520
On-Site Bicycle Parking Spaces		
Long-term Bicycle Parking	46	48
Short-term Bicycle Parking	9	20
Total Bicycle Parking Spaces	55	68

¹ Per City of Menlo Park Municipal Code, the minimum required total parking spaces is 343 spaces (1.5 spaces per 1,000 SF), and the maximum required parking spaces is 573 spaces (2.5 spaces per 1,000 SF). All parking spaces accrue towards the total, including EV, ADA, and Clean Air/Vanpool/Carpool spaces.

² To meet the LEED v4.1 standard, the Project must not exceed 620 total vehicle parking spaces.

³ Required Standard Parking spaces adjusted based on EV, ADA, and Clean Air/Vanpool/Carpool parking requirements.

⁴ Per City of Menlo Park Municipal Code, and to meet the LEED V4.1 standard, a minimum of 5% of total parking spaces must be EV Charging spaces (EVCS), and 10% of total parking spaces must be EV Ready Charging spaces (EVSE). The total number of EV spaces exceeds the City Code and CalGreen requirements, and complies with the Tier 2 CalGreen Non-Residential Voluntary Measures. Approximately 45% of the on-site parking spaces are EV spaces (EV Charging and EV Ready parking spaces).

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SOURCE: Bing Imagery 2021, San Mateo County 2015

FIGURE 4.6-1
Existing Transit Facilities - San Mateo County Transit District
1005 O'Brien Drive and 1320 Willow Road Life Sciences/R&D Project

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SOURCE: Bing Imagery 2021, Dumbarton Express (Accessed 2023), City of Menlo Park (Accessed 2023)

FIGURE 4.6-2

Existing Transit Facilities - Dumbarton Express and Menlo Park Shuttle Service

1005 O'Brien Drive and 1320 Willow Road Life Sciences/R&D Project

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SOURCE: Bing Imagery 2021, City of Menlo Park (Accessed 2023)

DUDEK

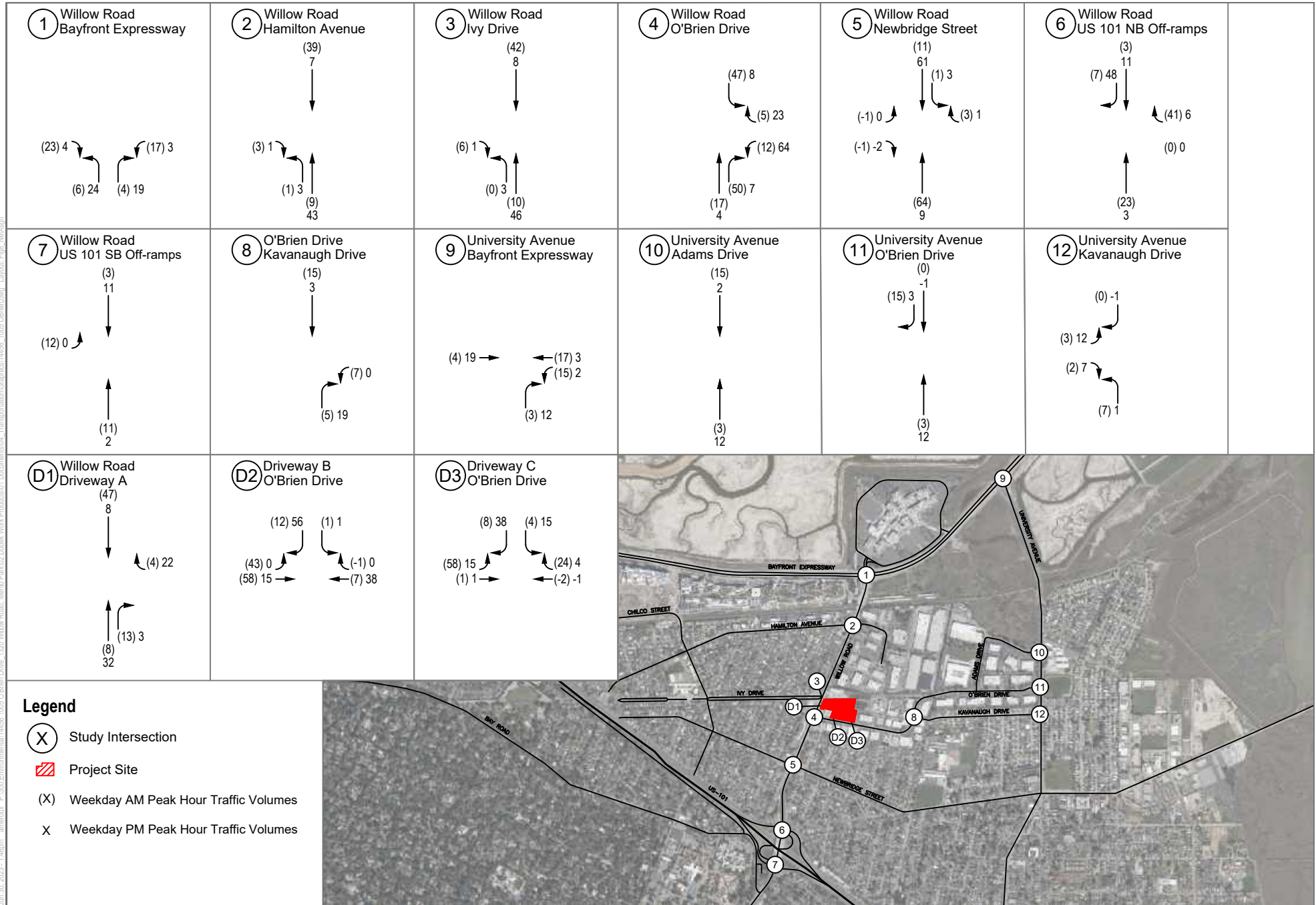
0 600 1,200 Feet

FIGURE 4.6-3

Existing and Proposed Bicycle Facilities

1005 O'Brien Drive and 1320 Willow Road Life Sciences/R&D Project

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SOURCE: Bing Maps

Figure 4.6-4

Net Project Trip Assignment

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4.7 Tribal Cultural Resources

This section describes the tribal cultural resources setting for the proposed 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Project; Proposed Project) site and region, including brief descriptions of the ethnographic and contemporary Native American setting of the area, identifies associated regulatory requirements, evaluates potential impacts, and identifies mitigation measures (MMs) to be implemented during Project construction to avoid or minimize potential effects to tribal cultural resources. The term *tribal cultural resources* refers to sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included in or determined eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a qualifying local register of historic and other resources that have been determined by a lead agency to be significant pursuant to the criteria for listing in the CRHR.

As discussed in Chapter 2, Introduction, and Section 4.0, Environmental Analysis, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR), in June 2023. None of the comment letters received in response to the NOP addressed tribal cultural resources. The NOP and the comments received in response to it are provided in Appendix G of this EIR.

The primary sources reviewed to prepare this section include the City of Menlo Park (City) General Plan (City of Menlo Park 2016a), the ConnectMenlo General Plan Update EIR (City of Menlo Park 2016b), information from consultation between the City of Menlo Park (City) and culturally affiliated California Native American tribes, and the Willow Village Master Plan EIR (City of Menlo Park 2022). The Willow Village Master Plan EIR is incorporated by reference in this EIR, as authorized by the California Environmental Quality Act (CEQA) Guidelines Section 15150. In particular, the ethnographic setting discussion from the Willow Village Master Plan EIR is relevant to this EIR. Accordingly, a brief summary of that discussion is presented in this EIR section, and the full discussion may be reviewed by accessing the Willow Village Master Plan EIR online at:

<https://menlopark.gov/Government/Departments/Community-Development/Projects/Approved-projects/Willow-Village>

Dudek has also reviewed the archaeological resources report prepared in support of the Willow Village Master Plan EIR for additional context and background information regarding the potential for the Project site to support archaeological resources and tribal cultural resources. While helpful for context and background purposes for the greater area encompassing the Project site, the archaeological resources report prepared for the Willow Village project did not include any field investigation or analysis specific to the Proposed Project site.

The Tamien Nation requested consultation with the City regarding the Proposed Project under the provisions of the Native American Historic Resource Protection Act, which was adopted under Assembly Bill (AB) 52 in 2015 and was codified in amendments to Public Resources Code Section 5097.94 and the additions of Public Resources Code Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. The information obtained through the City's consultation with the Tamien Nation is incorporated in this section. A California Historical Resource Information System records search for this Project was conducted in 2024, and no information regarding tribal cultural properties was provided in the response to the records search request. As discussed in the Initial Study, a cultural resources assessment was not prepared for the Project site, approximately 98% of which is covered by impervious surfaces.

However, as identified in the Initial Study prepared in support of this EIR, the Project is required to implement MMs from the City's General Plan EIR and Housing Element Subsequent EIR that include providing training to construction workers to recognize signs of potential cultural resources and retaining a qualified professional archaeologist to conduct monitoring during earth-disturbing activities. The MMs applicable to this Project are presented in Section 4.7.4, Impacts and Mitigation Measures.

CEQA and the CEQA Guidelines prohibit lead agencies from including any information from a California Native American tribe about tribal cultural resources (e.g., the location) in the environmental document or otherwise disclosing it without prior consent from the tribe that provided the information (Public Resources Code Section 21082.3[c] and CEQA Guidelines Section 15120[d]). In addition, the California Public Records Act authorizes agencies to exclude from public disclosure archaeological site information; records of Native American graves, cemeteries, and sacred places; and records of Native American places, features, and objects (California Government Code Sections 7927.000 and 7927.005.). In addition, California's open meeting laws (the Brown Act, California Government Code Section 54950 et seq.) protect the confidentiality of Native American cultural place information.

Because the disclosure of information about the location of archaeological cultural resources (many of which are also tribal cultural resources) is prohibited by the Archaeological Resources Protection Act of 1979 (16 United States Code [U.S.C.] Section 470hh) and Section 307103 of the National Historic Preservation Act (NHPA), it is exempted under Exemption 3 of the federal Freedom of Information Act (5 U.S.C. Section 552).

4.7.1 Environmental Setting

Project Region

The Bayfront Area of Menlo Park has been identified as archaeologically sensitive. The ConnectMenlo EIR notes that "artifacts from the lives of these early residents of what is now Menlo Park are still being discovered today. As recently as 2012, Native American remains were found at a construction site along Willow Road, in Menlo Park. Additionally, Native American remains were found at the Prologis commercial development site in the Bayfront Area" (City of Menlo Park 2016b). In addition, there is a multi-component (historic and pre-European contact) archaeological resource, referred to as the Hiller Mound, located within the Willow Village project site. The archeological component of the Hiller Mound has multiple parts, but the most culturally sensitive portion is referred to as the Hiller Mound Core. The Native American remains were encountered at the Hiller Mound Core within the Willow Village site during construction activities in 2017 (City of Menlo Park 2022). The Willow Village project site encompasses 59 acres on the east side of Willow Road. Its southern boundary is less than 400 feet north of the Proposed Project site. Through consultation with the City for the Willow Village project, the Tamien Nation identified that they recognize various mounds across the Bay Area region as comprising an ethnographic landscape, which is a type of cultural landscape that can range from contemporary settlements to religious sacred sites or geological landforms that exhibit importance to the culture (City of Menlo Park 2022).

Project Site

The Project site and surrounding area have been developed since the 1960s and appear to have been used for agricultural purposes from at least 1930 through at least 1948 (Appendix D). The Project site is

generally flat and is characterized by existing industrial uses within a developed portion of the Bayfront Area. Specifically, the site supports three existing offices, R&D, and storage buildings totaling 90,631 square feet of building space as well as surface parking. The buildings were constructed between 1961 and 1968 and are single-story. The Project site largely consists of impermeable surfaces, including existing buildings and paved roads/parking areas. There is a small area of landscaping (approximately 1,300 square feet) along the eastern border of the site as well as 11 trees onsite, with 4 located along the Willow Road frontage and 7 located along the O'Brien Drive frontage.

Implementation of the Project would require the demolition of the three existing buildings on the Project site and construction of two R&D buildings, a parking garage, and open space/pedestrian areas. Soil would be imported to raise the ground elevation such that all ground-level building floors would be at least 2 feet above the FEMA base flood elevation, per the requirements of Menlo Park Municipal Code Section 16.44.130(4).

Native American Historic Resource Protection Act Consultation

The following tribes are traditionally and culturally affiliated with the Project region:

- Amah Mutsun Tribal Band;
- Costanoan Rumsen Carmel Tribe;
- Indian Canyon Mutsun Band of Costanoan;
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- Ohlone Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band; and
- Tamien Nation

In compliance with the Native American Historic Resource Protection Act, a notification letter was sent to all tribal representatives included in the NAHC-provided list of recommended tribal contacts for the Project area. The notification letter provided a brief description of the Proposed Project and invitation to provide information and/or request consultation with the City regarding the potential for the Project to affect tribal cultural resources. The City received a request for consultation from the Tamien Nation after publication of the NOP for this EIR. The following chronology summarizes the consultation that occurred with the Tamien Nation. On June 12, 2023, the City received a response from Chairwoman Quirina Geary of the Tamien Nation requesting consultation under the Native American Historic Resource Protection Act, which is also referred to as Assembly Bill (AB) 52. The City concluded consultation with the Tamien Nation under AB 52 in accordance with Public Resources Code Sections 21080.3.2(b)(1) and 21082.3(d)(1) in March 2025. The consultation consisted of:

- June 13, 2023: The City confirmed receipt of the request and requested an introductory meeting to begin the consultation process.
- July 13, 2023: The City and the Tamien Nation held an introductory meeting, and sent the Tamien Nation links to requested information, including the Project plans, Notice of Preparation, and Initial Study.
- September 6, 2023: The City followed up with the Tamien Nation to determine if additional consultation was needed to clarify information in the Initial Study.

- October 5, 2023: The City and the Tamien Nation held a meeting to discuss inclusion of the Tribal Cultural Resources topic area as additional chapter in the EIR and potential modifications to MMs included in the Initial Study.
- December 6, 2024: The City provided the Tamien Nation with the updated MMs as presented in the administrative draft EIR via email. The City also followed up with the Tamien Nation by email to request comments on the updated MMs on January 9 and February 20, 2025.

Ethnographic Setting

As noted previously, the ethnographic setting discussion from the Willow Village Master Plan EIR is incorporated by reference in this EIR. The regional context applies equally to this Project site. A brief summary of that discussion is presented below, and the full discussion is provided in the Willow Village Master Plan EIR.

Native Californians settled in the Menlo Park area between 14,000 and 6,000 years ago, with additional tribal people migrating into the San Francisco Bay region by 1,500 years ago. The people who lived between the Carquinez Strait and the Monterey area when Europeans first arrived were referred to as the *Ohlone* by ethnographers. This label was applied to numerous politically autonomous nations that had similarities in their language and cultural expression. The native peoples in this area are also often referred to by the name of their broader linguistic group, *Costanoan*, which was a Spanish name meaning ‘coast people.’ This linguistic group includes people who spoke eight separate languages, but whose dialects were similar to those of their geographic neighbors.

Menlo Park is near the ethnolinguistic boundary between the Tamien and Ramaytush language groups. The Tamien Nation recognize their traditional cultural affiliation as extending north to Redwood City (inclusive of Menlo Park) and south through the lower Santa Clara Valley, having descended from those who resided at Mission Santa Clara, Mission Santa Cruz, and Mission San Juan Bautista.

The neighboring language to the north, Ramaytush, or the San Francisco language group, is spoken traditionally in San Francisco and San Mateo Counties. The neighboring language to the south is the Mutsun language, which is spoken by the Amah Mutsun Tribal Band. Their traditional territory spans Monterey Bay and extends from the South Bay to just south of present-day Soledad.

The Muwekma Ohlone, also known as the Pleasanton or Verona Band of Alameda County, comprises all known surviving lineages that were ancestral to the San Francisco Bay region. The Muwekma Ohlone Tribe of the San Francisco Bay Area is comprised of descendants of speakers of the Chochenyo or Thamien languages of the Verona Band of Alameda County, which distinguishes them from other Ohlone groups. Verona Band elders employed the linguistic term Muwekma, meaning the people, in the Chocheño or Thámien-Ohlone languages that are traditionally tied to the East and South San Francisco Bay Area. The Muwekma Ohlone Chochenyo, Tamien, Ramaytush and Awáwas languages fall under the Ohlone/Utian language family.

The traditional ancestral lands and territory of the Muwekma Ohlone Tribe include the present-day counties of San Francisco and San Mateo, most of Santa Clara, Alameda, and Contra Costa counties, and portions of Napa, Santa Cruz, Solano, and San Joaquin counties. The Muwekma Ohlone have been hunting, fishing, and harvesting within the greater San Francisco Bay Area for over 12,000 years prior to Spanish contact in

the 18th century. Their traditional lifeways were based in seasonal subsistence-related activities conducted throughout the range of vegetation communities and aquatic habitats traditionally found in the region. Such activities often were undertaken from temporary seasonal shelters for specialized tasks which were located proximate to their permanent and semi-permanent established villages that were typically placed along creeks and permanent water sources.

The arrival of Spanish missionaries and, later, Europeans in general was culturally and otherwise disastrous for traditional Ohlone communities and transformed every aspect of Native American religion and life. Seven Spanish missions were founded in Ohlone territory alone between 1776 and 1797. While living within the mission system, the Ohlone commingled with other groups, including the Yokuts, Miwok, and Patwin. After the missionization of California between 1767 and 1836, about 80 percent of the indigenous population was lost due to many factors: the impacts to natural resources, living conditions in the missions that resulted in widespread disease, and the mistreatment of people forced to live there. After California statehood, at least six Muwekma Indian rancherias, including the Alisal Rancheria, persisted during the 19th and early 20th centuries. The rancherias were used as a place of retreat from mission life.

All of the aforementioned communities have a shared heritage of the rich culture that has occupied the Bay Area for thousands of years that has been memorialized through oral history, ethnography, and archaeology. While the modern expression of traditional culture has been inhibited by Spanish occupation and the influx of Europeans, descendent communities are still recognizing, practicing, and revitalizing traditional lifeways. Variations in cultural expression exist among and between the eight language groups composing the ethnographic Ohlone; however, some general patterns have been recognized by anthropologists, and additional details have been provided by the Tamien Nation, as follows.

Traditional households are generally large, consisting of approximately 15 individuals from multiple generations. Groups of households form larger districts that share a common language as well as adjacent resource gathering and processing locations. Those who occupied the modern-day Menlo Park, Mountain View, and Palo Alto were most likely associated with the Puichon district. Trade routes, including a prominent one for the Tamien along Pacheco Pass, allowed trade with the Chowchilla.

The traditional villages and temporary campsites within the Menlo Park area were located near sources of fresh water adjacent to the marshlands that once bordered the San Francisco Bay. Fish were caught using A-frame nets, while clams, abalone, and kelp were harvested along the shorelines. Acorns were knocked from trees with poles, then leached to remove bitter tannins before being eaten as mush or turned into bread. Other plant resources for subsistence included mushrooms, dandelion, hog weed, watercress, toyon berries, goose berries, Manzanita berries, elderberries, strawberries, buckeye, California laurel, wild carrots, wild grapes, wild onion, cattail, amole, clover, and chuchupate. Game animals included antelope, black-tailed deer, Roosevelt elk, and marine mammals as well as waterfowl, fish, mollusks, skunk, rabbit, raccoon, squirrel, and dog. The Bay Area's natural resources have also been a source of raw material for clothing, shelter, medicine, cordage, twined basketry, tools, and boats. Contemporary cultures have been restricted from hunting and gathering on their traditional lands by laws and regulations related to now-private property and wildlife protection, leading to either trespassing or abandonment of the activity.

Another traditional practice was the creation and maintenance of shell mounds. According to contemporary Tamien experts, uneaten food (especially ceremonial food) was never discarded. It was placed onto a mound behind each residence, which, over time, led to the formation of midden soil. Based on

archaeological evidence alone, between 2,500 and 1,000 years ago, many of the bay shore midden sites grew into mounds. These were used until the Spanish arrived and legal or physical access to the sites was prevented. These midden mounds are often associated with villages and burials. Approximately 1,500 years ago, a shift in village and burial practices occurred as burials were placed away from the main village site. There were more frequent seasonal shifts between villages during this time, as well.

Midden mounds have also been used for religious ceremonies, some of which are tied to creation stories. According to the Tamien Nation, “our sacred sites are vital spaces for Tamien people. Like our baskets, they are an interweaving of our land, stories, culture, religion, language, and overall identity that ties us to thousands of years of being.” History, religion, and traditional ecological knowledge, among other aspects of culture, are passed from generation to generation through oral histories.

As noted previously, mission life was devastating to the tribal population. When the first mission was established in the region in 1776, the Ohlone population (inclusive of all eight language groups) was estimated to be 10,000. By 1832, they numbered less than 2,000 as a result of introduced disease, harsh living conditions, and reduced birth rates. The Mexican government began to earnestly secularize the mission lands in 1834 and divide the former mission land among loyal Mexican subjects. Those who opted to remain in their ancestral territory were branded as squatters. Others fled in the interest of survival. As one example, the Tamien were forced to relocate to Madera, Hollister, Gilroy, Los Banos, and San José. Because ceremonies and lifeways are dependent on the traditional spatial organization and proximity of households, as well as the reliance on the family as the sole support system, it has been difficult for many dispersed contemporary groups to maintain their cultural identity and language.

Mission life also forced Catholic baptism upon Native Americans, who were prohibited (either directly or indirectly, in the interest of survival) from practicing their traditional religions. The Tamien, for example, could no longer practice roundhouse religion, and ceremonies had to be moved to other, less appropriate locations.

Movement towards formal tribal recognition and tribal assertion and self-determination began to gain focused attention during the early 20th century. This movement was enforced by legal suits brought between 1928 and 1964 by the Indians of California against the United States government for reparation due to them for the loss of traditional lands. Tribally led political advocacy groups brought attention to the community and resulted in a re-evaluation of Native American rights.

Today, the Muwekma Ohlone Tribe has undertaken efforts of reclamation to regain their tribal identity in the Bay Area as part of a cultural revitalization movement. The Muwekma are reclaiming their history, heritage, and legacy through advocating for historic preservation and educating the public about the ancestral homeland in the Greater San Francisco Bay Area. For example, the Tribe’s language revitalization program began in 2004, and the language committee has been able to rename their ancestral heritage sites in the Chochenyo, Tamien, Ramaytush, and Awáwas languages. All of this is part of the reclamation and revitalization process that is attempting to reverse the impacts of colonialism on Native American culture, language, religion, and identity (City of Menlo Park 2022).

4.7.2 Regulatory Framework

Federal Regulations

American Indian Religious Freedom Act

The American Indian Religious Freedom Act recognizes that Native American religious practices, sacred sites, and sacred objects have not been properly protected under other statutes. It establishes as national policy that traditional practices and beliefs, sites (including right of access), and the use of sacred objects shall be protected and preserved.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) requires federal agencies and institutions that receive federal funds, including museums, universities, state agencies, and local governments, to repatriate or transfer Native American human remains and other cultural items to the appropriate parties upon request of a culturally affiliated lineal descendant, Indian tribe, or Native Hawaiian organization (43 Code of Federal Regulations [CFR] Section 10.10). Federal NAGPRA regulations (43 CFR Part 10) provide the process for determining the rights of culturally affiliated lineal descendants, Native American tribes, and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony, which are indigenous to Alaska, Hawaii, and the continental United States but not to territories of the United States, that are (i) in federal possession or control, (ii) in the possession or control of any institution or state or local government receiving federal funds, or (iii) excavated intentionally or discovered inadvertently on federal or tribal lands.

National Historic Preservation Act, Section 106

The NHPA (54 U.S.C. Section 300101 et seq.) created the NRHP and the list of National Historic Landmarks. Section 106 of the NHPA requires federal agencies to consider the impact of their actions on historic and archeological properties and provide the Advisory Council on Historic Preservation with an opportunity to comment on projects before implementation (Section 306108). The NRHP and federal guidelines related to the treatment of traditional cultural properties are relevant for the purposes of determining whether significant tribal cultural resources, as defined under CEQA, are present and guiding the treatment of such resources.

State Regulations

Native American Historic Resource Protection Act

The Native American Historic Resource Protection Act (AB 52), which went into effect July 1, 2015, establishes that Tribal Cultural Resources must be considered under the California Environmental Quality Act (CEQA) and defines a lead agency's requirements for notification and consultation with California Native American tribes.

Public Resource Code (PRC) Section 21074 states:

- a) "Tribal cultural resources" are either of the following:

- 1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - 2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- c) A historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in subdivision (g) of PRC Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of PRC Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Under AB 52, lead agencies must notify all California Native American tribes that are traditionally and culturally affiliated with a project area and that have requested formal notification. The notification requirement extends to tribes that are not federally recognized, and notification must occur at the onset of a project, which is typically considered to be when an NOP is released. After notification, tribes may request to engage in consultation with the Lead Agency. If it is determined that a substantial adverse change to a tribal cultural resource would result from a project, the tribal consultation can include development of MMs and/or project alternatives that could reduce or avoid those impacts.

The City’s completion of the required notification and consultation is discussed in Section 4.7.1.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act of 2001, as amended, requires all state agencies and state-funded museums that have possession or control over collections of California Native American human remains or cultural items to provide a process for the identification, inventory, and repatriation of these items to the appropriate tribes. Lineal descendants of human remains or cultural items may file a claim for the return of the materials by demonstrating the relationship between the lineal descendent and the materials

California Environmental Quality Act

As discussed above, the Native American Historic Resource Protection Act amended CEQA to require public agencies to consider the effects of their actions on tribal cultural resources. CEQA also requires that public agencies avoid damaging effects to any tribal cultural resource, when feasible. If the lead agency determines that a project may cause a substantial adverse change in a tribal cultural resource, and

measures are not otherwise identified in the consultation process, state law provides MMs that may be considered to avoid or minimize the significant adverse impacts. These include:

- Avoidance and preservation in place, including incorporation of the resource into open spaces, parks, or green spaces;
- Treating the resource with appropriate dignity, including protecting the cultural character and integrity of the resource, protecting the traditional use of the resource, and protecting the confidentiality of the resource;
- Establishing conservation easements or other interests in real property with culturally appropriate management criteria for purposes of preserving or utilizing the resource in place; or
- Otherwise protecting the resource.

Public Resources Code Section 5097.5

PRC Section 5097.5 prohibits “knowing and willful” excavation or removal of any “vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands.” Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof.

State Laws Pertaining to Human Remains

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the county coroner has examined the remains and determined whether they are subject to the coroner’s authority. If the human remains are determined to be of Native American origin, the county coroner must contact the California NAHC within 24 hours of this identification. An NAHC representative will then identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. In addition, PRC Section 5097.98 and CEQA Guidelines Section 15064.5 specify the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Local Regulations

Menlo Park General Plan

Policies pertaining to consideration of impacts associated with tribal cultural resources are addressed in the Land Use and Conservation and Open Space Elements of the City’s General Plan. Relevant General Plan policies related to tribal cultural resources are included below.

Goal LU-7: Sustainable Services. Promote the implementation and maintenance of sustainable development, facilities, and services to meet the needs of Menlo Park’s residents, businesses, workers, and visitors.

Policy LU-7.8: Cultural Resource Preservation. Promote preservation of buildings, objects, and sites with historic and/or cultural significance.

Goal OSC-3: Protect and Enhance Historic Resources. Protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.

Policy OSC-3.1: Prehistoric or Historic Cultural Resources Investigation and Preservation. Preserve historical and cultural resources to the maximum extent practical.

Policy OSC-3.2: Prehistoric or Historic Cultural Resources Protection. Require significant historic or prehistoric artifacts to be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation and ensure compliance with local, state, and federal regulations.

Policy OSC-3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either onsite or through appropriate documentation as a condition of removal. When a development project has sufficient flexibility, require avoidance or preservation of the resources as the primary form of mitigation, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.

Policy OSC-3.4: Prehistoric or Historic Cultural Resources Found during Construction. If cultural resources, including archaeological or paleontological resources, are uncovered during grading or other onsite excavation activities, require construction to stop until appropriate mitigation is implemented.

Policy OSC-3.5: Consultation with Native American Tribes. Consult with those Native American tribes with ancestral ties to the Menlo Park city limits regarding City General Plan amendments and land use policy changes.

4.7.3 Thresholds of Significance

The significance criteria used to evaluate the Project impacts to tribal cultural resources are based on Appendix G and Section 15130 of the CEQA Guidelines. A significant impact related to tribal cultural resources would occur if the Project would:

- A. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC Section 5024.1.

- B. Make a cumulatively considerable contribution to a significant cumulative impact related to tribal cultural resources.

4.7.4 Impacts and Mitigation Measures

Methodology

The following section analyzes potential impacts on tribal cultural resources that may be caused by the Proposed Project. In accordance with CEQA section 21084.2, the analysis considers the potential for Project activities to cause a substantial adverse change in the significance of a tribal cultural resource. To assess the Proposed Project's potential to create a significant adverse change in tribal cultural resources, the City considered information provided by representatives of the Tamien Nation during their consultation with the City. As noted previously, the City engaged in consultation with the Tamien Nation between July 2023 and March 2025, in accordance with the Native American Historic Resource Protection Act.

There is minimal soil visibility at the Project site due to the existing buildings and paving and no site survey has been conducted to identify whether intact precolonial or historic era archaeological deposits may be present at the Project site.

A records search of the Project site and a 0.5-mile buffer was completed for the Project on August 2, 2024, at the Northwest Information Center (NWIC). The NWIC search included their collection of mapped prehistoric, historical, and built-environment resources, California Department of Parks and Recreation (DPR) site records, technical reports, archival resources, and ethnographic references. Additional consulted sources included the NRHP, California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, California Historical Landmarks, and California Department of Transportation (Caltrans) Bridge Survey information.

The records search identified 52 previous studies that have been performed within the records search area, four of which intersect the Project site. These reports are listed below in Table 4.7-1.

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
Reports Intersecting the Project Site			
S-007346	Janis K. Offermann	1985	Negative Archaeological Survey Report, landscaping project along Routes 84 and 101 in San Mateo and Alameda Counties, 04-SM/Ala-101, 84, 04253-033231
S-038684	Stacy Kozakavich and Alexandra Merritt-Smith	2008	A Cultural Resources Study for the San Mateo County SMART Corridors Project, San Mateo County, California
S-038684a	Neal Kaptain	2009	Smart Corridors Geoarchaeological Sensitivity Research (letter report)
S-040929	Basin Research	2013	Archaeological Data Recovery Report (SMA-83) (ADRR) and Final Archaeological Resources Report (FARR), San Francisco Public Utilities Commission, Water System

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
	Associates, Inc.		Improvement Program, Bay Division Pipeline Reliability Upgrade Project, East Bay and Peninsula Bay Division Pipeline No. 5, Alameda and San Mateo Counties, California
Reports Within 0.5 Miles of the Project Site			
S-003021	Stephen A. Dietz	1976	An Archaeological Reconnaissance of the 100.6 Acre Raychem Corporation Properties in Menlo Park, California (letter report)
S-003063	Robert Cartier	1978	Archeological Evaluation of Sunset Meadows Project
S-003093	Stephen A. Dietz	1978	An archaeological reconnaissance of the James Branch Triangle located at the intersection of Bay Road and Newbridge Street in East Palo Alto, California (letter report)
S-003163	Stephen A. Dietz	1973	An archaeological reconnaissance of the proposed Dumbarton Bridge replacement project (letter report)
S-004866	Robert Cartier	1978	Preliminary Draft, the Subsurface, Secondary Testing of the Hiller Site, SMA-160
S-005406	Miley Paul Holman	1981	A Report of Archaeological Findings at the Proposed Dumbarton Distribution Center, Menlo Park, California
S-006948	Robert Cartier	1984	Cultural Resource Evaluation of the Menlo Business Park, Phase II, on University Avenue in the City of Menlo Park, County of San Mateo
S-007477	Robert Cartier, Judy Carrico, and Jeff Hall	1985	The Tarlton Site: CA-SMa-248.
S-015932	Archaeological Resource Management	1993	Cultural Resource Evaluation, OICW Child Care and Job Training Facility, County of San Mateo
S-019711	Robert Cartier and Jeanne Goetz	1996	The Hiller Site: CA-SMA-160, Archaeological Burial Recovery Program, Willow Park VIII in the City of Menlo Park
S-020692	Miley Paul Holman	1997	Archaeological Field Inspection of the Proposed Willow at Hamilton Retail Center, Menlo Park, San Mateo County, California (letter report)
S-029305	Miley Paul Holman	2004	Cultural Resources Study of the Clarum Homes/Hamilton Park Project, Menlo Park, San Mateo County, California (letter report)
S-029364	George McKale	1999	Historic and Archaeological Review for Site SF169-80, 300 Constitution Drive, Menlo Park, San Mateo County, CA (50001-87/99) (letter report)

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
S-029573	Jonathan Goodrich and John Holson	2000	Final Report, Archaeological Survey and Record Search for the Six Fluor Global Fiber Optic Segments, Mountain View, Palo Alto, and San Mateo County, California.
S-036481	Adrian Whitaker, Phil Kaijankowski, Jack Meyer, and Brian Byrd	2009	Archaeological Survey Report for the Dumbarton Rail Corridor Project, San Mateo and Alameda Counties, California
S-036481a	Adrian R. Whitaker, Philip Kaijankoski, Jack Meyer, Brian F. Byrd, and Sharon A. Waechter	2012	Archaeological Survey Report for the Dumbarton Rail Corridor Project, San Mateo and Alameda Counties, California
S-037241	Benjamin J. Harris, Maureen Zogg, and Christopher Caputo	2010	Historic Property Survey Report, proposed replacement of Metal Beam Guardrails (MBGR) at various locations in San Mateo County, California, 04-SMA-VarVar, EA 04-0A8721
S-037241b	Benjamin J. Harris and Maureen Zogg	2010	Archaeological Survey Report for the Proposed Metalbeam Guardrail Upgrade Project at Various Locations across San Mateo County, California, 04-SMA-VarVar, EA 04-0A8721
S-037241c	Benjamin J. Harris	2010	Environmentally Sensitive Area (ESA) and Archaeological Monitoring Area (AMA) Action Plan for Two Locations Along State Route 1, San Mateo County, California, 04-SMA-01, PM 0.7 and 1.2, EA 04-0A8721; for the Proposed Metalbeam Guardrail Project at Various Locations Across San Mateo County, California, 04-SMA-VarVar, EA 04-0A8721
S-037241d	Benjamin J. Harris and Maureen Zogg	2010	Extended Phase I Testing at CA-SMA-97 for the Proposed Metalbeam Guardrail 1-5 Upgrade Project, San Mateo County, California, 04-SMA-01, PM 1.20, EA: 04-0A8721
S-039469	Neal Kaptain	2012	Historical Resources Compliance Report for the San Mateo County SMART Corridors Project, Segment III, Redwood City, Atherton, Menlo Park, East Palo Alto, and Palo Alto, San Mateo County & Santa Clara County, California; EA #4A9201; EFIS #0400001169, Caltrans District 4; SR 82 PM SM 0/4.8, SCL 24.1/26.4; SR 84 PM 24.6/28.7; US 101 PM 0.7/5.5; SR 109 PM 1.10/1.87; SR 114 PM 5.0/5.93

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
S-039469a	Neal Kaptain	2012	Archaeological Survey Report for the San Mateo County SMART Corridors Project, Segment III, Redwood City, Atherton, Menlo Park, East Palo Alto, and Palo Alto, San Mateo County and Santa Clara County, California; EA #4A9201; EFIS #0400001169; Caltrans District 4; SR 82 PM SM 0/4.8; SCL 24.1/26.4; SR 84 PM 24.6/28.7; US 101 PM 0.7/5.5; SR 109 PM 1.10/1.87; SR 114 PM 5.0/5.93
S-039469b	Neal Kaptain	2012	Post-Review Discovery and Monitoring Plan for the San Mateo County SMART Corridors Project, Segment III, Redwood City, Atherton, Menlo Park, East Palo Alto, and Palo Alto, San Mateo County and Santa Clara County, California; EA #4A9201; EFIS #0400001169, Caltrans District 4; SR 82 PM SM 0/4.8; SCL 24.1/26.4; SR 84 PM 24.6/28.7; US 101 PM 0.7/5.5; SR 109 PM 1.10/1.87; SR 114 PM 5.0/5.93
S-040454	Andrew Hope	2013	Historical Resources Evaluation Report for the Highway 101 / Willow Road (State Route 114) Interchange Reconstruction Project in San Mateo County, 04-SM-101, P.M. 1.7/2.1, EFIS #04 000 0680, EA 23565
S-040454a	Karen Reichardt	2013	Archaeological Survey Report for the Proposed Willow Road Interchange Project, San Mateo County, California, 04-SMA-101, PM 1.6/2.2, EA 23565
S-042003	Ellen Joslin Johnck	2008	The South Bay Salt Pond Restoration Project: A Cultural Landscape Approach for the Resource Management Plan
S-042003a	G. Mendel Stewart and Charles Armor	2007	Memorandum of Understanding Between the U.S. Fish & Wildlife Service, Don Edwards San Francisco Bay National Wildlife Refuge and the California Department of Fish and Game Regarding Implementation of the National Historic Preservation Act on the Eden Landing Ecological Reserve (Baumberg Tract) for the South Bay Salt Ponds Restoration Project in Alameda County
S-042003b	Lou Ann Speulda-Drews and Nicholas Valentine	2009	Identification and Evaluation of the South San Francisco Bay Solar Salt Industry Landscape (Alameda, Santa Clara, and San Mateo Counties, California)
S-042003c	Laura Watt, Marie Galvin, David Blau, Charlane Gross, Aki Omi, Donna Plunkett, Lou Ann Speulda-Drews, and	2014	Historic American Landscapes Survey, Alviso Salt Works, HALS #CA-92

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
	Nicholas Valentine		
S-042003d	Mendel Stewart and Milford Wayne Donaldson	2012	Memorandum of Agreement Between the U.S. Fish & Wildlife Service and the California State Historic Preservation Officer Regarding the South Bay Salt Pond Restoration Project, Including Restoration of Former Industrial Salt Ponds to Tidal Salt Marsh and Other Wetland Habitats, Including the Former Salt Works Sites Within the Alviso Unit on the Don Edwards San Francisco Bay National Wildlife Refuge and California Department of Fish And Game's, Eden Landing Ecological Reserve; Alameda and Santa Clara, Counties, California
S-042003e	Anne Morkill, Julianne Polanco, and John C. Morrow	2015	Amendment to Memorandum of Agreement Among the U.S. Fish And Wildlife Service, the California State Historic Preservation Officer, and the U.S. Army Corps Of Engineers Regarding the South Bay Salt Pond Restoration Project, Including Restoration of Former Industrial Salt Ponds to Tidal Salt Marsh and Other Wetland Habitats, Including the Former Salt Works Within the Alviso Unit of the Don Edwards San Francisco Bay National Wildlife Refuge and the California Department of Fish And Game's Eden Landing Ecological Reserve, Alameda And Santa Clara Counties, California
S-042003f	U.S. Fish and Wildlife Service	2012	U.S. Fish and Wildlife Service Project #FWS040721A, Historic Properties Treatment Plan for the Salt Works within the South Bay Salt Pond Restoration Project at the Alviso Unit, Don Edwards San Francisco Bay National Wildlife Refuge, and the Eden Landing Ecological Reserve, California Department of Fish and Game, Alameda and Santa Clara counties, California
S-042003g	Laura Watt, Marie Galvin, David Blau, Charlane Gross, Aki Omi, Donna Plunkett, Lou Ann Speulda-Drews, and Nicholas Valentine	2014	Historic American Landscapes Survey, Eden Landing Salt Works, HALS No. CA-91
S-042003h	U.S. Fish and Wildlife Service	2019	South Bay Salt Pond Restoration Project, Cultural Resources Mitigation and Monitoring Report

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
S-042003i	Julianne Polanco	2019	FWS040721A, Section 106 Consultation: Determination of Eligibility for Pond A18 and Draft DPR forms for review as per the Amendment to the Memorandum of Agreement for the South Bay Salt Pond Restoration Project, Alameda and Santa Clara Counties, California
S-045661	Alan Leventhal, Emily McDaniel, Diane DiGiuseppe, Melynda Atwood, David Grant, Colin Jaramillo, Rosemary Cambra, Monica V. Arellano, Sheila Guzman-Schmidt, Gloria E. Gomez, and Norma Sanchez	2014	Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of an Early Bay Period Ohlone Indian Cemetery, White Salt Man Site, CA-SMA-267, Located at 1416 Bay Road, East Palo Alto, San Mateo County, California
S-046140	Jason A. Coleman	2013	Cultural Resources Monitoring Plan for the Storm Drain Phase 2 Project, San Mateo County, California
S-046140a	Jason Coleman	2014	Storm Drain Phase 2 Project, San Mateo County, California (letter report)
S-046363	Holly D. Moore	2015	FCC Form 621, Section 106 Review, Proposed AT&T Mobility LLC Telecommunications Tower, AT&T Site No. CCL05890, "PG&E Raychem Substation" 1599 Willow Road, Menlo Park, California, San Mateo County
S-046363a	Carolyn Losee	2015	Cultural Resources Investigation for AT&T Mobility CNU5890 "PG&E Raychem Substation", 1599 Willow Road, Menlo Park, San Mateo County, California 94025 (letter report)
S-046363b	Julianne Polanco	2015	FCC_2015_0624_004; CNU5890 "PG&E Raychem Substation" 1599 Willow Road, Menlo Park, Collocation
S-047329	Jason Coleman	2015	Archaeological construction monitoring for the Willow Housing Project (Project) at the Menlo Park Division (MPD) of the Veterans Affairs Palo Alto Health Care System (VAPAHCS), San Mateo County, California (letter report)

Table 4.7-1. Previous Cultural Resources Studies

Report ID	Author	Year	Title
S-049125	Michael Meloy and Kathleen Kubal	2017	Historic Property Survey Report for the US 101 Managed Lanes Project, EA 04-1J560
S-049125a	Michael Meloy	2017	Historic Resources Evaluation Report for the US 101 Managed Lanes Project, EA 04-1J560
S-049125b	Karin G. Beck, Kathleen Kubal, and Jay Rehor	2017	Archaeological Survey Report and Extended Phase I Study, US 101 High-Occupancy Vehicle/Express (Managed) Lanes Project, San Francisco, San Mateo, and Santa Clara Counties, California, EA 04-1J5600
S-049125c	Julianne Polanco	2017	FHWA_2017_0508_001, Determinations of Eligibility for the Proposed Creation of Approximately 22 Miles of Managed Lanes along United States Highway 101, San Mateo County, CA
S-055858	Eileen Barrow	2020	Cultural Resources Study for the Flow Equalization and Resource Recovery Facility Levee Improvements and Bayfront Recycled Water Project, Menlo Park, San Mateo County, California
S-055858a	Ward Hill and Denise Bradley	2020	Historic Resources Evaluation Report: West Bay Sanitary District Flow Equalization and Resource Recovery Facility, 1700 Marsh Road, Menlo Park, San Mateo County, CA

The records search failed to identify any cultural resources within or adjacent to the Project site. Nineteen cultural resources have been recorded within a 0.5-mile buffer of the Project. These resources are summarized below in Table 4.7-2.

Table 4.7-2. Previously Recorded Cultural Resources

Primary Number	Trinomial	Name	Type	Age	Attributes
Previously Recorded Sites Intersecting the Project Site					
None					
Previously Recorded Sites Within 0.5 Miles of the Project Site					
P-41-000160	CA-SMA-000160	Hiller Mound	Site	Prehistoric	Burials; Habitation Debris
P-41-000263	CA-SMA-000267	1416 Bay Road	Site	Prehistoric	Burials; Habitation Debris
P-41-001877	None	Southern Pacific Railroad Dumbarton Cutoff	Structure	Historic	Transportation Routes
P-41-002292	None	Willow Road Shell Scatter	Site	Prehistoric	Habitation Debris

Table 4.7-2. Previously Recorded Cultural Resources

Primary Number	Trinomial	Name	Type	Age	Attributes
P-41-002320	None	227 Holland Street, East Palo Alto	Building	Historic	Single Family Property
P-41-002326	None	811 Bay Road, Menlo Park	Building	Historic	Religious Building
P-41-002327	None	815 Bay Road, Menlo Park	Building	Historic	Multiple Family Property
P-41-002328	None	825 East Bayshore Road, East Palo Alto	Building	Historic	Single Family Property
P-41-002329	None	845 Pierce Road, Menlo Park	Building	Historic	Multiple Family Property
P-41-002330	None	906 Bay Road, East Palo Alto	Building	Historic	Single Family Property
P-41-002332	None	939 East Bayshore Road, East Palo Alto	Building	Historic	Single Family Property
P-41-002334	None	1014 Madera Avenue, Menlo Park	Building	Historic	Multiple Family Property
P-41-002335	None	1017 Madera Ave., Menlo Park	Building	Historic	Multiple Family Property
P-41-002336	None	1030 Sevier Avenue, Menlo Park	Building	Historic	Single Family Property
P-41-002337	None	1101 Westminister Avenue, East Palo Alto	Building	Historic	Single Family Property
P-41-002338	None	1149 Saratoga Avenue, East Palo Alto	Building	Historic	Single Family Property
P-41-002339	None	1153 Saratoga Avenue, East Palo Alto	Building	Historic	Single Family Property
P-41-002340	None	1157 Saratoga Avenue, East Palo Alto	Building	Historic	Single Family Property
P-41-002351	None	Ravenswood Salt Works District	Structure, District	Historic	Water Conveyance; Dams; Other

Project-specific research and site investigations conducted for other development projects in the Bayfront area suggest that the area holds a moderate to high potential to contain buried archaeological deposits that may be capable of supporting tribal cultural resources.

Project Impacts

Impact 4.7-1

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

As previously noted, a tribal cultural resource is defined under AB 52 as a site, feature, place, or cultural landscape that is geographically defined in terms of size and scope, a sacred place, or an object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the CRHR or included in a local register of historical resources, or if the City of Menlo Park, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resource as a tribal cultural resource.

The Project does not include any below-grade parking or building basements, thus excavation during construction would be somewhat limited. Up to 2,190 cubic yards of soils would be removed from the Project site for excavation, utility trenching, and foundations. Excavation would be needed for installation of elevator pits, which would typically be up to 5 feet below finished grade. Excavation would also occur when auger cast piles are drilled. These would extend approximately 85 feet below grade and are necessary to support construction of the foundation mat slab. As the auger drill is used to create the cast pile, the soil disturbed by the drill is displaced laterally, meaning that the soil is moved into and compacted with the soil surrounding the drilled hole. Thus, if any subsurface tribal cultural resources are present in the location of an auger cast pile, elements of that resource may be destroyed and/or moved. Excavation would also be needed for construction of bioretention areas, which are included in the Proposed Project to manage stormwater. The basins would typically extend approximately 3 feet below the final floor elevation for each building, which would generally be at maximum depths of approximately one foot below the existing grade. Soils would be imported to the Project site to raise the site elevation 2 feet above the base flood elevation in compliance with Menlo Park Municipal Code Section 16.44.130(4), which would reduce the degree to which Project construction would disturb soils below the existing grade. Raising the site elevation would require importing 7,690 cubic yards of soil. This imported soil would serve as a capping layer over the site, which would provide in-place protection for any below-grade tribal cultural resources.

As discussed above, in compliance with AB 52, the City provided formal notification of the Proposed Project to all tribes listed on the NAHC official SB 18 California Tribal Consultation List that have requested notification of projects subject to CEQA review. The City provided notification to these tribes in November 2022; the Tamien Nation was the only tribe to request consultation. The Tamien Nation has not identified known tribal

cultural resources within or adjacent to the Project site but has expressed concern that presently unknown tribal cultural resources could be present below the ground surface and these could be disturbed and/or destroyed during Project construction. Additionally, as discussed in the Initial Study circulated with the Notice of Preparation for this EIR, the Project site is not known to contain any human remains. However, it is possible for human remains to be encountered during construction. Thus, the Project would result in a **potentially significant** impact to Tribal Cultural Resources.

Mitigation Measures

Section 3.18, Tribal Cultural Resources, of the Initial Study prepared for this Project includes four MMs. These are MM CR-2b from the Housing Element Update Subsequent EIR, MM CULT-4 from the ConnectMenlo EIR, and two Project-specific measures (CULT-A and CULT-B) identified in the Initial Study prepared for the Project. This section replaces ConnectMenlo EIR MM CULT-4 (regarding potential disturbance to human remains) with Housing Element Subsequent EIR MM CR-3, which contains minor modifications to ConnectMenlo EIR MM CULT-4. MMs CR-2b, CULT-A, and CULT-B originally included in the Initial Study are presented below and have been revised to address concerns brought to the City through Tribal consultation. Implementation of MMs CR-2b, CR-3, CULT-A, and CULT-B would ensure that any potential tribal cultural resources encountered during Project construction would be protected from further impacts until they have been evaluated by a qualified professional and a determination is made as to the treatment measures that can be implemented to avoid adverse effects to such resources prior to continuance of construction activities in the vicinity of the resource. This would reduce the Project's impacts to tribal cultural resources to a **less-than-significant** level.

Modified Housing Element Update Subsequent EIR MM CR-2b. If pre-contact or historic-era archaeological resources are encountered during Project construction and implementation, the Project applicant shall halt all construction activities within 100 feet in consultation with the Project's tribal monitor, if the Consulting Tribe opts to designate a tribal monitor, and with the Project's archaeologist and notify the City. Pre-contact archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. An archaeologist meeting the U.S. Secretary of the Interior's Standards (SOIS) for Archeology and the tribal monitor, if one is designated, shall inspect the findings and work shall be stopped within 100 feet of the potential archaeological resources until the material is either determined by the archaeologist and tribal monitor, if one is designated, to not be an archaeological resource or appropriate treatment has been enacted, with appropriate consultation, as needed.

If the City determines, in consultation with the Project archaeologist and Consulting Tribe, that the resource qualifies as a historical resource or a unique archaeological resource (as defined pursuant to the CEQA Guidelines) and that the Project has potential to damage or destroy the resource, mitigation shall be implemented in accordance with PRC Section 21083.2 and CEQA Guidelines Section 15126.4, with a preference for preservation in

place. If preservation in place is feasible, this may be accomplished through one of the following means: (1) siting improvements to completely avoid the archaeological resource; (2) incorporating the resource into a park or dedicated open space, by deeding the resource into a permanent conservation easement; (3) capping and covering the resource before building the Project on the resource site after the resource has been thoroughly studied by a SOIS qualified archaeologist and a report written on the findings.

If preservation in place is not feasible, the City shall notify persons who represent tribal governments on the City's AB 52 list and consult a representative of any tribe that responds to the notice within seven working days to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2, and CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery (according to PRC Section 21083.2), if deemed appropriate by the City in consultation with the Project archaeologist and any consulting tribes, or other actions such as treating the resource with culturally appropriate dignity and protecting the cultural character and integrity of the resource (according to PRC Section 21084.3). In the event the Project archaeologist and tribe(s) disagree regarding treatment after good-faith consultation, the City shall make the final decision, considering the provisions of Public Resources Code Section 21084.3(b).

Housing Element Update Subsequent EIR MM CR-3. Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(c) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, the Project applicant shall ensure that all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.

MM CULT-A Worker Environmental Training. Because of the potential for the discovery of unknown buried cultural, tribal cultural, archeological, and paleontological resources, prior to commencement of each phase, the general contractor and those engaged in ground-disturbing activities shall be given environmental training regarding cultural and paleontological resource protection, tribal cultural resource identification and protection, and the laws and penalties governing such protection. Specifications for archeological and tribal cultural resources sensitivity training for construction workers and superintendents shall meet the following standards:

- Occurs prior to the start of any ground-disturbing activity or site work on the Project Site or for off-site improvements.
- Training shall be required for all construction personnel participating in ground disturbing construction to alert them to the archaeological and tribal cultural sensitivity of the area and provide protocols to follow in the event of a discovery of archaeological materials or tribal cultural resources. Training shall be provided en masse to such personnel at the start of construction of the Project, and training shall be repeated when new personnel participating in ground-disturbing site work start work.
- Includes, for job site posting, a document (“ALERT SHEET”) that summarizes the potential finds that could be exposed, the protocols to be followed, and the points of contact to alert in the event of a discovery that is presented as part of the training.
- Requires the contractor to ensure that all workers requiring training are in attendance.
- Requires training for all contractors and sub- contractors that is documented for each permit and/or phase of a permit that requires ground-disturbing activities onsite.

This training may be administered by the Project archaeologist and/or paleontologist, in addition to the tribal monitor if one is designated by the Consulting Tribe, as a stand-alone training or included as part of the overall environmental awareness training required for the Proposed Project. The training shall include, at minimum, the following:

- The types of cultural resources that are likely to be encountered,
- The procedures to be taken in the event of an inadvertent cultural resource discovery,
- The penalties for disturbing or destroying cultural resources,
- The types of fossils that could occur at the Project site,
- The types of lithologies in which the fossils could be preserved,
- The procedures that should be taken in the event of a fossil discovery; and
- The penalties for disturbing cultural, tribal cultural, archeologic, and palaeontologic resources.

MM CULT-B Perform Construction Monitoring, Evaluate Uncovered Archaeological Features, and Mitigate Potential Disturbance for Identified Significant Resources at the Project Site. Prior to demolition, excavation, grading, or other construction-related activities on the Project site, the Project sponsor shall hire a qualified professional archaeologist (i.e., one who meets the Secretary of the Interior’s professional qualifications for archaeology or one under the supervision of such a professional) to monitor, to the extent determined necessary by the archaeologist, Project related earth-disturbing activities (e.g., grading, excavation, trenching, pile drilling). Prior to conducting earthwork on the Project Site, the Project sponsor shall notify representatives of all tribal governments that requested consultation on this Project and offer the opportunity to appoint a tribal monitor to be present during Project related earth-disturbing activities (e.g., grading, excavation, trenching, pile drilling). Each Consulting Tribe shall be given thirty (30) days to respond and

identify in its response (1) the Consulting Tribe's selected tribal monitor and (2) the activities at which the Consulting Tribe would like the tribal monitor to be present (the "Monitor Response") or indicate that it declines to have a tribal monitor present. If a Consulting Tribe does not respond within thirty (30) days, the Consulting Tribe shall be deemed to have elected not to have a tribal monitor present. The tribal monitor shall be afforded the opportunity to be present at each location of ground disturbing site work identified in the Monitor Response, for the duration of such work, unless the Consulting Tribe agrees in writing that tribal monitoring is not needed in that instance, or unless the Consulting Tribe fails to provide a monitor at the scheduled time, provided that at least 15-days written notice prior to the start of any ground disturbing work identified in the Monitor Response was provided.

In the event that precontact or historic period subsurface archaeological features or deposits, including locally darkened soil (midden), that could conceal cultural deposits, animal bone, obsidian, and/or mortars are discovered during demolition or construction-related earthmoving activities, Housing Element Update Subsequent EIR MM CR-2b, as modified herein, shall be followed. In addition, if the resource is a historic-era archaeological site or historic-era architectural feature and the archaeologist is not a historical archaeologist, the archaeologist shall notify the City Community Development Department and a historical archaeologist or architectural historian who meets the Secretary of the Interior's professional qualifications for archaeology and/or architectural history and that person shall follow the requirements of Housing Element Update Subsequent EIR MM CR-2b. Impacts on significant resources would be mitigated to a less-than-significant level through preservation in place, capping, data recovery or other methods determined adequate by the City that are consistent with the Secretary of the Interior's standards for archaeological documentation.

If Native American archaeological, ethnographic, or spiritual resources are discovered, all identification and treatment of the resources shall be conducted by a qualified archaeologist and any Tribal Monitors. In the event that a Consulting Tribe has not elected to have a tribal monitor present, the archaeologist shall notify the Consulting Tribe(s) and consult a representative of any tribe that responds to the notice within seven working days. In the event the archaeologist and the tribal monitor(s) or tribe(s) disagree regarding treatment after good-faith consultation, the City shall make the final decision, considering the provisions of Public Resources Code Section 21084.3(b).

Cumulative Impacts

The geographic scope or cumulative context for evaluation of potential cumulative impacts on tribal cultural resources is San Mateo County and adjacent areas of Santa Clara County because these areas are included in the traditional territory of the Native American tribes that are traditionally and culturally affiliated with the Project region. Tribal cultural resources are unique and non-renewable; thus, all adverse effects or negative impacts erode a dwindling resource base. Effects to tribal cultural resources within the City could combine with effects to other tribal cultural resources in the region to further erode the cultural context of the area. Thus, this cumulative impact analysis for cultural resources relies on development projections as

described in the general plans for the City of Menlo Park, the 19 other incorporated cities within San Mateo County, and the City of East Palo Alto, consistent with CEQA Guidelines Section 15130(b)(1)(B).

Impact 4.7-2 Would the project make a cumulatively considerable contribution to a significant cumulative impact related to tribal cultural resources?

Archaeological evidence suggests that San Mateo County has been inhabited dating to more than 5,500 years before present time. Background research has identified a number of historical archaeological sites, prehistoric archaeological sites, and historic buildings and structures throughout the County while recent consultations between Native American tribes and local governments have identified several tribal cultural resources in the region. Urban development throughout San Mateo County and adjacent areas of Santa Clara County has likely impacted a number of known and unknown historic and prehistoric sites, including tribal cultural resources. It is reasonable to assume that present and future development would continue to have an impact on known and unknown tribal cultural resources throughout the region.

The potential for adverse effects to tribal cultural resources can be lessened through the notification and consultation process defined in CEQA as well as implementation of appropriate and effective mitigation development in consultation with Native American tribes and in compliance with applicable federal, state, and local laws that protect these resources in most instances. However, the cumulative loss of tribal cultural resources from present and future development within San Mateo County and adjacent areas of Santa Clara County is considered a potentially significant cumulative impact.

Although there are no known cultural or tribal cultural resources within or adjacent to the Project site, there are known tribal cultural resources within the Willow Village project site, which is located approximately 400 feet north of the Project site, and the Project region overall is considered to be archaeologically sensitive. As discussed in Section 4.7.1, the Bayfront Area of the City of Menlo Park has been identified as archaeologically sensitive, and there are known cultural resources, human remains, and tribal cultural resources in this portion of the City as well as throughout the region overall. Thus, there is a potential for tribal cultural resources to be encountered during construction and for the Project to cause a substantial adverse change in the significance of such a resource and therefore there is a potential for the Project to contribute to the potentially significant cumulative impact to tribal cultural resources in the Project region.

The analysis in the ConnectMenlo EIR found that the future development anticipated under the General Plan has the potential to cumulatively impact cultural resources (and by extension tribal cultural resources) but that such impacts would be reduced to less-than-significant levels with implementation of MMs CULT-2a (which addresses unanticipated discovery of subsurface cultural resources during construction), CULT-2b (which addresses Native American consultation), and CULT-4 (which addresses unanticipated discovery of human remains during construction) and compliance with applicable federal, state, and local regulations, including applicable City General Plan goals and policies. The Housing Element Update Subsequent EIR replaced the ConnectMenlo EIR MM CULT-2a and CULT-2b with MMs CR-2a and CR-2b (City of Menlo Park 2023); however, the Subsequent EIR MM CR-2a only applies to multi-family housing development projects and thus only Subsequent EIR MM CR-2b is applicable to the Proposed Project. This measure mitigates impacts to subsurface cultural resources and tribal cultural resources by requiring that if a potential resource is encountered, all construction activity within 100 feet of that find must cease, a qualified archeologist must record the resource on appropriate California Department of Parks and Recreation forms, evaluate the resource for significance under CEQA, and prepare a comprehensive report detailing their

methods, results, and recommendations. If the resource is determined significant under CEQA, the qualified archaeologist must prepare and implement a research design and archaeological data recovery plan. This measure also requires project proponents to include an “inadvertent discovery” clause in every construction contract to inform contractors of these requirements.

In addition, the Housing Element Update Subsequent EIR modified ConnectMenlo EIR MM CULT-4, as presented in Subsequent EIR MM CR-3. This measure mitigates impacts related to the discovery of human remains by specifying the protocols that must be implemented if human remains are encountered, consistent with the requirements of California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and California Code of Regulations Section 15064.5(e). It requires that if human remains are encountered, the Project applicant must ensure that all work in the immediate vicinity of the discovery ceases, and necessary steps are taken to ensure the integrity of the immediate area. It also requires that the San Mateo County Coroner be notified immediately. The coroner then is required to determine whether the remains are Native American, in which case the coroner must notify the NAHC within twenty-four hours and the NAHC will then notify the person it identifies as the MLD of the discovered remains. This MM notes that, under applicable state laws, the MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance.

These regulations were found to protect tribal cultural resources by providing for early detection of potential conflicts between development and resource protection and preventing or minimizing material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation. Thus, the analysis in the ConnectMenlo EIR concluded that ongoing development within the City would not create or contribute to a significant cumulative impact on tribal cultural resources (Menlo Park 2016b).

To address the potential for the Project to result in direct impacts to tribal cultural resources, this EIR also requires implementation of Project-specific MMs CULT-A and CULT-B, which require training for construction workers to recognize conditions that may indicate the presence of tribal cultural resources and development and implementation of an ATMTTP. These MMs were originally presented in the Initial Study prepared for this EIR but have been modified to reflect input received from the City through the tribal consultation process.

The Proposed Project is consistent with the land use and zoning designations applied to the Project site under ConnectMenlo and thus the Project’s potential contribution to cumulative impacts on tribal cultural resources is consistent with the analysis in the ConnectMenlo EIR.

As noted previously, the Project site does not contain any known cultural, tribal cultural, historic, or archaeological resources or human remains, although tribal cultural resources could be present below-ground. The Project would undertake mitigation designed to minimize or eliminate impacts to tribal cultural resources, including Subsequent EIR MMs CR-2b and CR-3 as well as Project-specific MMs CULT-A and CULT-B. Thus, the analysis and conclusions of the ConnectMenlo EIR regarding cumulative impacts to cultural resources remain applicable to the Proposed Project, which would not create or make a cumulatively considerable contribution to any significant cumulative impact on tribal cultural resources from prior and existing development. The ConnectMenlo EIR concluded that general plan buildout, when combined with past, present, and reasonably foreseeable future development, would not result in a

significant cumulative impact on tribal cultural resources with implementation of the MMs. In addition, the ConnectMenlo EIR found that future development set to occur under the general plan would not create or contribute to a cumulative impact on known cultural resources, including tribal cultural resources. Therefore, in combination with past, present, and reasonably foreseeable projects, the Project would not make a cumulatively considerable contribution to significant cumulative impacts with respect to tribal cultural resources and this impact would remain **less than significant**, consistent with the conclusions in the ConnectMenlo EIR and Housing Element Subsequent EIR.

Mitigation Measures

Implementation of MMs CR-2b, CR-3, CULT-A and CULT-B would reduce the Project's impacts to tribal cultural resources to a less-than-significant level and would ensure that the Project would not make a cumulatively considerable contribution to any significant cumulative impact to tribal cultural resources. No additional MMs are required.

4.7.5 References Cited

- City of Menlo Park. 2016a. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update*. Adopted November 19, 2016. https://www.menlopark.org/DocumentCenter/View/15013/Land-Use-and-Circulation-Element_adopted-112916_final_figures?bidId=.
- City of Menlo Park. 2016b. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update EIR*. SCH No. 2015062054. Prepared by PlaceWorks for the City of Menlo Park. Draft EIR dated June 1, 2016 and Final EIR dated October 10, 2016. <https://beta.menlopark.org/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo/Environmental-Impact-Report>.
- City of Menlo Park. 2022. *Willow Village Master Plan Project EIR*. Prepared by ICF for the City of Menlo Park. October 2022. <https://menlopark.gov/Government/Departments/Community-Development/Projects/Approved-projects/Willow-Village>
- City of Menlo Park. 2023. *2023-2031 Housing Element Program Subsequent EIR*. Prepared by ESA for the City of Menlo Park. January 2023. <https://menlopark.gov/files/sharedassets/public/v/1/community-development/documents/projects/housing-element-update/20221230-menlo-park-housing-element-update-final-subsequent-environmental-impact-report-seir.pdf>

5 Effects Found Not to be Significant

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that an environmental impact report (EIR) briefly describe potential environmental effects that were determined not to be significant and, therefore, were not discussed in detail in the EIR. As discussed in Chapter 1, Executive Summary, Chapter 2, Introduction, and Section 4.0, Environmental Analysis in this EIR, a Notice of Preparation (NOP) was circulated for this environmental impact report (EIR) in June 2023. A detailed Initial Study was made available for public review at the time that the NOP was circulated; the Initial Study was prepared using the Initial Study checklist provided in Appendix G of the CEQA Guidelines. The NOP is provided in Appendix G1 and the Initial Study is provided in Appendix G2.

This section provides a summary of the Initial Study analysis of those environmental resource areas and individual checklist questions for which the 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project is expected to have no impact, a less than significant impact, or a potentially significant impact that would be reduced to a less-than-significant level with implementation of mitigation measures (MMs) identified in the Initial Study. In some cases, the Project's effects for all potential impacts within a given topic were found to not be significant, while in other cases this determination was reached only for certain Initial Study checklist questions within a given topic. Implementation of the Proposed Project would not result in any significant impacts related to aesthetics, agricultural and forestry resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, public services, recreation, utilities and service systems, and wildfire. Therefore, these issues are not discussed in this Draft EIR but are summarized below. In addition, the Initial Study determined the Project would not result in significant impacts for discrete issues within the environmental resource areas of air quality and noise. These impacts are not discussed in detail in this Draft EIR and are also summarized below. As discussed further in Section 5.8, the Initial Study found that the Project would have either no impact, less than significant impacts, and less than significant impacts with mitigation incorporated for all of the hazards and hazardous materials checklist questions. However, in response to NOP comments that raised concerns with potential hazardous materials impacts associated with the Proposed Project's R&D uses, particularly related to biosafety levels. Section 4.3 of this Draft EIR evaluates three of the environmental checklist questions for hazards and hazardous materials relevant to such concerns. The remaining four checklist questions are not addressed in this Draft EIR and thus the Initial Study findings for those checklist items are summarized below.

5.1 Aesthetics

The Project site is within a portion of the City known as the Bayfront Area and is zoned Life Sciences – Bonus Level Development (LS-B). The Project site is not part of a scenic vista. Existing development on site and in the vicinity limits the opportunity for views of scenic vistas from street-level public viewing areas. Therefore, the Proposed Project would not interfere with views of any designated scenic vistas. Additionally, there are no eligible or officially designated state scenic highways in the immediate Project area.

Construction activities would gradually change the aesthetics of the site through tree removal; grading; construction of new structures; and installation of new surfaces, landscaping, and lighting. Construction would occur in two phases, with the eastern and southern portion of the Project site being redeveloped in

Phase 1 and the western portion of the Project site being redeveloped in Phase 2. Construction-related impacts would be limited to the duration of construction and would not conflict with any regulations governing scenic quality outlined in the Menlo Park General Plan or the Menlo Park Municipal Code.

Through the City's architectural control process in accordance with Municipal Code Section 16.68.020, the City would ensure that the Project meets all standards identified in Municipal Code Section 16.44 for the LS-B zone district, the Heritage Tree ordinance in Municipal Code Chapter 13.24, and the General Plan policies adopted in support of General Plan Goals LU-1, LU-6, and OSC-1. This includes regulations regarding setbacks, building height, floor area ratio, open space, relationship of site improvements to the public right-of-way; building façade design; landscaping; and lighting design, placement, safety, and energy efficiency. The buildings would be clad with neutral-colored glass-fiber-reinforced concrete, reinforced metal, and tinted blue and clear (bird-safe) glass windows. Rooftop heating, ventilation, and air-conditioning (HVAC) and other equipment would be housed within metal roof screens. Landscaping and open space would be incorporated throughout the site. Exterior building and parking structure lights would be angled downward to prevent light pollution onto sensitive receptors and ceramic glass patterns would be applied to the building windows to reduce potential for bird strikes, which would also reduce potential for window glare. Compliance with the Municipal Code standards and General Plan policies would ensure that the Project has a high-quality design consistent and compatible with the visual quality and characteristics in the area. Therefore, the Proposed Project's impacts related to scenic vistas, scenic resources, and light and glare would remain **less than significant**.

5.2 Agricultural and Forestry Resources

According to the California Department of Conservation, the Project site is categorized as urban and built-up land and does not include any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). There is no Farmland within at least 5 miles of the Project site (DOC 2022). The Project site is in the City's LS-B zone district and is not zoned for agricultural use or timberland (City of Menlo Park 2016a). The Project site is not located on lands enrolled in a Williamson Act contract (San Mateo County 2016). There are currently 34 trees within or immediately adjacent to the Project site (Appendix A2). However, these are not considered to be forestry resources, per the definitions of Public Resources Code Section 12220(g). Land surrounding the Project site consists entirely of urban built-up land.

Redevelopment of the Project site would not result in the conversion of Farmland to non-agricultural uses, would have no impact associated with existing agricultural zoning or a Williamson Act contract, would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]), and would not result in the conversion of forestland to non-forest use. The City does not contain land zoned for timberland production nor does the Menlo Park Zoning Map identify any areas zoned for Timberland Production (City of Menlo Park 2016b). Therefore, the Project would have **no impact** on agricultural or forestry resources.

5.3 Air Quality

As discussed in the Initial Study, the Project would have less than significant effects for two of the environmental checklist questions for air quality. Section 4.1 of this EIR evaluates the other two checklist questions.

The Initial Study found that the Project would not conflict with the Bay Area Air District's¹ Clean Air Plan, *Spare the Air: Cool The Climate - Final 2017 Clean Air Plan* (BAAQMD 2017) because it is consistent with the type and intensity of development established for the Project site under ConnectMenlo and thus the amount of new employment and the resulting indirect and induced residential population growth that the project would generate would be consistent with the employment and population projections assumed in the ConnectMenlo EIR. Additionally, the Project would be required to adhere to ConnectMenlo policies related to air quality, which would ensure compliance with the Clean Air Plan. This is consistent with the determination reached in the ConnectMenlo EIR, which found that impacts would be less than significant, and no MMs would be required because compliance with the policies identified in ConnectMenlo would ensure that ongoing development under the General Plan would not hinder implementation of the Clean Air Plan. The applicable requirements under the ConnectMenlo policies and municipal code include implementing a Transportation Demand Management (TDM) Plan to reduce vehicle trips and miles traveled and the associated air pollutant emissions; complying with the City's Green Building requirements; providing electric vehicle (EV) charging stations and infrastructure; providing onsite renewable energy generation; and implementing a Zero Waste Management Plan (Appendix F). Thus, the Project would have a **less than significant** impact related to conflicts with the applicable air quality plan.

The Initial Study also found that odors generated during construction would disperse rapidly from the Project site and generally occur at magnitudes and durations that would not affect substantial numbers of people, and that typical operations of the R&D buildings would not generate substantial amounts of objectionable odors. The Project would have a **less than significant** impact associated with objectionable odors.

5.4 Biological Resources

The Project site is located in an urbanized area that primarily supports dense commercial and industrial development. The entire Project site has been modified for human use and is composed almost entirely of impervious surfaces. Preparation of the Biological Resources Assessment for the Proposed Project (Appendix A1) included review of background information and a field survey to assess the potential for the Project site to support sensitive biological resources, consistent with the requirements of ConnectMenlo MM BIO-1. The Biological Resources Assessment found that the Project site and surrounding areas do not support sensitive or special-status biological resources other than the potential to support nesting native birds and raptors, which are protected under the Migratory Bird Treaty Act and California Fish and Wildlife Code, and trees that meet the City's definition of Heritage Trees (Appendices A1 and A2). The Proposed Project would be required to comply with the City's tree preservation ordinance and the City's bird-safe design requirements. The Initial Study found that Project construction could result in destruction or disturbance to nesting birds that might occur on the Project site, and thus the Project would have a

¹ The Bay Area Air Quality Management District (BAAQMD) changed its name to the Bay Area Air District in January 2025.

potentially significant impact to special status species. Consistent with the recommendations in the Biological Resources Assessment, the Initial Study requires implementation of MM BIO-A, which includes conducting a pre-construction survey for nesting birds and implementing avoidance measures developed by a qualified biologist to prevent destruction or disturbance of active nest sites, to ensure that the Project complies with the Migratory Bird Treaty Act, California Fish and Wildlife Code, and ConnectMenlo EIR MM BIO-1. With implementation of MM BIO-A, the Project would have **less than significant impacts with mitigation incorporated** related to biological resources. Refer to Chapter 1, Executive Summary, for the full text of MM BIO-A.

5.5 Cultural Resources

The existing buildings within the Project site are not historically significant (Appendix B) and the Project would have **no impact** to historic resources. The Project site does not support any known archaeological resources, but such resources could be encountered during grading, trenching, and excavation. Implementation of Housing Element Update Subsequent EIR MM CR-2b, in addition to the Project-specific MMs CULT-A and CULT-B would ensure that impacts to archaeological resources are avoided and/or reduced to a less-than-significant level. These measures require that work be halted in the area of any potential cultural resources encountered during Project construction, such potential resources be evaluated by a qualified archaeologist, and implementation of treatment measures recommended by the archaeologist to avoid adverse effects to such resources prior to continuing construction activities in the vicinity of the resource. These measures were slightly revised in Section 4.7, Tribal Cultural Resources, based on the tribal consultation between the City and the Tamien Nation. Similarly, the site is not known to contain human remains, but the potential exists for previously undiscovered human remains to be encountered during construction. Implementation of ConnectMenlo EIR MM CULT-4 would ensure that if human remains are encountered during construction impacts associated with disturbance of human remains would be avoided or reduced to a less-than-significant level. The Project would have **less than significant impacts with mitigation incorporated** associated with potential disturbance of archaeological resources and human remains. Refer to Chapter 1 for the full text of MMs CULT-A, CULT-B, Housing Element Update Subsequent EIR MM CR-2b, and ConnectMenlo EIR MM CULT-4. As noted in Chapter 1, in the EIR analysis of potential impacts to Tribal Cultural Resources and through the City's tribal consultation process, MMs CULT-A, CULT-B, and Housing Element Update Subsequent EIR MM CR-2b were revised and expanded as presented in Section 4.7, Tribal Cultural Resources.

5.6 Energy

Implementation of the Project would increase the demand for electricity and natural gas at the Project site relative to the existing onsite uses. Construction activities related to the Project would consume petroleum-based fuels; however, consumption of such resources would be temporary and would cease upon the completion of construction. Construction-related energy usage would be temporary and substantially less than that required for Project operation.

Project operation would require electricity for multiple purposes including, but not limited to, lighting, appliances, and electronics. It is expected that electricity demand would increase due to the increased amount of building space that the Project would construct, but the overall energy efficiency of the new buildings would be higher than the existing buildings because the Project would comply with the California Building Energy

Efficiency Standards, the California Green Building Standards Code, the City's Municipal Code requirements regarding renewable energy generation/purchases and credits/offsets for any use of natural gas, and the Green Building Ordinance of the City's Municipal Code. This includes attaining Leadership in Energy and Environmental Design certification. The Proposed Project would also implement TDM measures which would help reduce transportation energy usage, consistent with ConnectMenlo and City Zoning Ordinance requirements.

Thus, the Initial Study concludes that energy consumption associated with the Proposed Project would not be considered inefficient, wasteful, or unnecessary and impacts would remain **less than significant**.

5.7 Geology and Soils

The Project site is located in a seismically active area, but the Project would neither exacerbate the potential for seismic shaking or liquefaction to occur nor increase seismic-related risks for the existing population in the Project area. No known fault crosses the Project site (City of Menlo Park 2016b). The Project area is generally flat, and the Project would not create unstable landforms, slopes, or a potential for landslides to occur. The Project would implement erosion control measures as required by the City's Grading and Drainage Guidelines and the Project's Stormwater Pollution Prevention Plan. The Proposed Project would be designed and constructed to meet or exceed standards established in the California Building Code and the City's Municipal Code. Compliance with the Geotechnical Investigation recommendations, California Building Code, and Municipal Code would be verified through the City's Project review process and Conditions of Approval; this would ensure that appropriate measures are taken to minimize the potential for structures and site improvements to be damaged due to soil expansion and contraction. These impacts are considered **less than significant**.

The Project does not propose use of septic tanks or alternative wastewater disposal system and thus would result in **no impacts** associated with such infrastructure.

Although no fossils or unique paleontological resources or unique geologic features are known to be present within the Bayfront Area, the area is underlain by Pleistocene-age alluvium deposits, which could have high potential for producing paleontologically significant resources. During grading and excavation activities onsite, there is a potential to encounter paleontological resources, which could be destroyed or disturbed. Implementation of ConnectMenlo EIR MM CULT-3 would ensure that impacts to paleontological resources are avoided and/or reduced to a less-than-significant level. Therefore, the Project would have a **less than significant impact with mitigation incorporated**. Refer to Chapter 1 for the full text of ConnectMenlo EIR MM CULT-3.

5.8 Hazards and Hazardous Materials

The Initial Study found that the Project would have no impact for two of the environmental checklist questions for hazards and hazardous materials, would have a less than significant impact for three checklist questions for this topic, and less than significant impacts with mitigation incorporated for the remaining two hazards and hazardous materials checklist questions. As stated previously, an NOP was circulated for this EIR in June 2023. The City received several comments on the NOP identifying concerns with potential hazardous materials impacts associated with the potential for life sciences uses to be located

in the proposed R&D buildings, particularly related to biosafety levels. To be responsive to those comments, Section 4.3 of this EIR evaluates three of the environmental checklist questions for hazards and hazardous materials relevant to such concerns. The remaining four checklist questions are not addressed in this EIR and thus the Initial Study findings for those checklist items are summarized here.

The Project site is not a hazardous materials site and is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (DTSC 2024a; SWRCB 2024a). The Initial Study found that the Project site is not included on a list of hazardous materials sites, and the Project site is not expected to be affected by any of the nearby properties that are included on such lists. However, the ConnectMenlo EIR found this impact to be potentially significant and required implementation of ConnectMenlo EIR MMs HAZ-4a and HAZ-4b to ensure that impacts with respect to development on sites with known hazardous materials would be less than significant (City of Menlo Park 2016b). The Initial Study noted that because the Project site is not known to contain any hazardous materials, ConnectMenlo EIR MM Haz-4b would not apply to this Project but that implementation of the Initial Study MM HAZ-A would be implemented in place of ConnectMenlo EIR Mitigation Measure HAZ-4a to ensure that the Proposed Project would have a **less than significant impact with mitigation incorporated** relating to creating a significant hazard to the public or the environment associated with disturbing a hazardous materials site. As noted in Chapter 1, in the EIR analysis of Impact 4.3-2, MM HAZ-A was revised and expanded and is now presented in this EIR as MM 4.3a.

There are no airports or airstrips in the Project vicinity. The nearest airport is the Palo Alto Airport, approximately four miles northwest, and the Project site is located outside of the Airport Influence Area (Santa Clara County 2020). The Project would have **no impact** related to airport hazards. Similar to the conclusions in the ConnectMenlo EIR, compliance with existing regulations, including the CBC, California Fire Code, and Menlo Park Fire Protection District Fire Code, would ensure that the Proposed Project would not impair nearby evacuation routes and would include adequate access and clearance for fire equipment, fire suppression personnel, and evacuation. Compliance with these regulations and standards would be verified by the City prior to issuance of building permits. The Project would not conflict with an adopted emergency response or evacuation plan, and this impact would remain **less than significant**.

The Project site is located in an urban area and there are no moderate, high, or very high fire hazard severity zones in or near the Bayfront Area of the City of Menlo Park (City of Menlo Park 2016b; CalFire 2022). Although the impact analysis presented in this EIR is based on the conditions that existed at the time the NOP was published in June 2023, it is acknowledged that the California Department of Forestry and Fire Protection published updated fire hazard severity zone maps in 2025 which continue to reflect that there are no moderate, high, or very high fire hazard severity zones in or near the Bayfront Area (CalFire 2025). The Project would not expose people or structures to a significant loss, injury, or death involving wildland fires. Therefore, the impact is **less than significant**.

5.9 Hydrology and Water Quality

Adverse effects to water quality during construction and Project operation would be avoided through the use of on-site stormwater treatment measures in compliance with existing local, regional, state, and federal regulations, including implementation of a Stormwater Pollution Prevention Plan which would be developed for the Project and implemented in compliance with the Construction General Permit, local stormwater ordinances, and related requirements and incorporation of site design measures to reduce stormwater runoff.

The Project would also implement Best Management Practices and spill containment measures around the proposed emergency generators to control any accidental release of diesel fuel.

The Project would reduce the amount of impervious surfaces at the project site and install a new onsite storm drain system that includes bio-retention basins and planters to treat and manage runoff in compliance with Menlo Park Municipal Code Section 16.44.120. The Project site currently supports approximately 179,825 square feet of impervious surfaces, which is approximately 98% of the site, and 3,930 square feet of pervious surfaces. After construction, the Project site would support a total of 146,859 square feet of impervious surfaces and 36,896 square feet of pervious surfaces, which is a reduction in impervious surfaces of approximately 18% (Appendix H, Sheet C3.3). This would reduce the rate and volume of stormwater runoff from the site. The runoff would be directed to the bio-retention basins and planters within the on-site storm drain system to provide preliminary water quality treatment to meet stormwater quality control requirements outlined in the C.3 Regulated Projects Guide of the San Mateo County Water Pollution Prevention Program.

The Initial Study determined that the project would have **less than significant** impacts for the checklist questions related to water quality, compliance with the region's water quality control plan, changes in drainage patterns, increased surface runoff, and stormwater drainage system capacity and **no impacts** for the checklist questions regarding increased groundwater demand, decreased groundwater recharge, increased erosion, and flood hazards.

5.10 Land Use and Planning

The Proposed Project would not construct any barriers or new roads that could physically divide the existing and planned land uses or communities in the Project vicinity; and it would not impede pedestrian, bicycle, or vehicle movement. The proposed R&D uses would be consistent with the land use and zoning designations for the Project site and would be compatible with the existing and planned land uses in the vicinity. Thus, the Project would have **less than significant** impacts related to land use and planning.

5.11 Mineral Resources

The Project site is currently developed with office, R&D and warehouse/storage uses buildings and is approximately 98% covered in impervious surfaces. No mineral resource extraction or recovery activities occur on or near the Project site. The site is not known to support any mineral resources, and it is not delineated as a locally important mineral resource by the California Geological Survey (CGS) or indicated as such on any San Mateo County or City land use plan. The CGS Mineral Resource Zones and Resource Sectors map classifies the Project site as Mineral Resource Zone-1, which is an area where data indicates that there are little to no significant mineral deposits are present (CGS 1987). The Project would have **no impact** associated with mineral resources because Project implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

5.12 Noise

As discussed in the Initial Study and summarized below, the Project would have no impact for the environmental checklist question related to airport and aircraft noise. Section 4.4 of this EIR evaluates the other two checklist questions.

There are several airports and airfields in the communities surrounding the City, the closest of which (Palo Alto Municipal Airport) is approximately 2 miles to the southeast of the Project site. However, the Project site does not fall within the runway protection zones and is not exposed to excessive noise levels associated with airport and aircraft operations (Santa Clara County ALUC 2020). The Project site is not located within 2 miles of any other airfield, does not fall within the planning area or runway protection zones of any airfield or airport, and is not exposed to excessive noise from any airfields or airports. The Project would have **no impact** associated with exposure to airport and aircraft noise.

5.13 Public Services

The Project is consistent with the land use and zoning designations for the site and would not result in increased demands for public service that would require new or physically altered fire protection and law enforcement facilities in order to maintain acceptable service ratios, response times, or other performance objectives. The ConnectMenlo EIR projected that buildout of the City under ConnectMenlo would result in development of 5.6 million square feet of non-residential space and would support 5,500 new employees within the Bayfront area and 9,900 total new employees authorized by the prior General Plan plus ConnectMenlo and found that impacts related to public services would remain less than significant. although the proposed project would not construct any housing and thus would not directly lead to increases in the city's residential population, the new employees at the site could generate additional households within the city, as discussed in Section 4.5, Population and Housing, and within the service territories of the Menlo Park Fire Protection District and the Menlo Park Police Department. the analysis in Section 4.5 demonstrates that the anticipated population increase is approximately 0.4% of the existing population within the service areas, which would not alter the current ratio of firefighters or police officers to population. Additionally, the Proposed Project would adhere to state and City requirements, as well as the Menlo Park Fire Protection District permitting process, to ensure that the Project design provides for sufficient emergency access and equipment (e.g., hydrants). The Project's impacts associated with demand for fire and police protection would be **less than significant**.

The Project's impacts related to school capacity and enrollment would be **less than significant** because the Project would pay school impact fees adopted by the Sequoia Union High School District and the Ravenswood City School District and applied to the Project in accordance with Senate Bill (SB) 50. Section 65996 of the Government Code states that payment of school impact fees is deemed to constitute full and complete mitigation for school impacts from development. Therefore, with payment of the development impact fees, any impacts on schools as a result of the Proposed Project would be considered fully and completed mitigated.

The Project would not substantially increase use of existing parks or require development of new parks. The Project design includes 59,344 square feet of open space, of which 31,535 square feet would be publicly accessible. The open space would include passive areas (seating and walking paths) as well as a

sports court. The Project would not substantially contribute to unplanned or unanticipated increases in employment or the City's residential population and thus would not substantially increase demands for libraries and other public facilities. These impacts would remain **less than significant**.

5.14 Recreation

As discussed in Section 5.13, Public Services, the Project would indirectly lead to an increase in the residential population of the City but would not substantially increase use of recreation facilities and would not cause physical deterioration of recreational facilities or a need to construct or expand recreational facilities. The onsite open space would meet a portion of the passive recreation needs of site employees and the portions that would be publicly accessible could meet a portion of the passive recreation needs of nearby residents. The increase in employees and residents associated with the Project would not substantially increase use of parks in the Project area and would not cause the City to fall below its adopted standard of providing 5 acres of parkland for every 1,000 residents. Project impacts associated with recreation would remain **less than significant**, consistent with the findings of the ConnectMenlo EIR.

5.15 Utilities and Service Systems

The Project is consistent with the land use and zoning designations for the site and would not increase anticipated demands for utilities and service systems such that new or physically altered facilities and infrastructure for water supply, wastewater conveyance and treatment, and stormwater drainage would be needed. The Proposed Project would implement a Zero Waste Management Plan (Appendix F) and would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs.

The Proposed Project would be subject to the water-efficient landscaping and water efficiency measures in the City's Zoning Ordinance and California Code of Regulations Title 24 Building Standards Code, which would serve to minimize the Project's water consumption. The Proposed Project would be consistent with the type and intensity of development allowed for the Project site under the land use and zoning designations applied to the site under ConnectMenlo. The Project is estimated to have a water demand of 20,245 gallons per day (7.39 million gallons per year), which would not exceed the amount of water available from Menlo Park Municipal Water in a normal water year. In the year 2040, the Project's water demand would represent 0.42% of MPMW's available supply during a normal year, 0.7% of the available supply during a single-dry year, 0.89% of the available supply during a multiple-dry year, and 0.5% of the overall projected water demand. These estimates do not account for the existing water usage at the Project site, so the increase in demand relative to existing conditions would be less. Water shortages in dry years and multiple dry years would be managed through demand reductions, supply augmentations, and other policy actions that would reduce water usage. In addition, purple pipe would be installed for connection to future recycled water service when it becomes available. Project implementation would not prompt a need to expand treatment facilities or regional water system conveyance and storage facilities to meet its demand. Impacts associated with water demand would remain **less than significant**.

The Project is estimated to generate 11,696 gallons per day of wastewater. The Project's wastewater generation would represent 0.04% of the Silicon Valley Clean Water wastewater treatment plant's dry-weather flow capacity, 0.07% of the average dry weather flow, and 0.09% of the plant's excess dry weather flow capacity. Because the Proposed Project would redevelop the site, replacing the existing office, R&D, and

warehouse/storage uses with R&D uses, a portion of Project-generated wastewater would be offset by current wastewater produced by the existing uses. The net increase in wastewater generation due to the Project would not be considered a substantial increase for the treatment plant relative to the treatment capacity of approximately 71 mgd. Impacts associated with wastewater generation would remain **less than significant**.

The ConnectMenlo EIR determined that all future development would result in less-than-significant stormwater impacts through required compliance with existing regulations, including general plan policies and zoning regulations, thereby minimizing impacts related to stormwater drainage facilities. The Project would connect to existing storm drain networks along the Project site frontages and provide an onsite stormwater drainage system. The Project would reduce the extent of impervious surfaces at the Project site and thus reduce the amount of stormwater runoff, as discussed in Section 5.9, Hydrology and Water Quality. Implementation of bio-retention measures and connection into the City's existing stormwater network would not require additional expansion, construction, or relocation of stormwater facilities as a result of the Proposed Project and these impacts would remain **less than significant**.

Electricity and telecommunication services are currently used by the existing buildings within the Project site. The Project would incorporate several measures to minimize electricity use. The Project would not require expansion of electrical supplies or infrastructure or telecommunication infrastructure. These impacts would remain **less than significant**.

The ConnectMenlo EIR determined that all future development impacts related to landfill capacity and solid waste would be less than significant through compliance with existing regulations for minimizing impacts related to solid waste disposal. The Project would implement Project-specific zero waste management measures to reduce, recycle, and compost waste from demolition, construction, and operational phases of the Project in compliance with the City's waste reduction targets (Appendix F). The solid waste generated by the Project would not require expansion of existing solid waste disposal facilities and this impact would remain **less than significant**.

5.16 Wildfire

The Project site is located in an urban area and there are no moderate, high, or very high fire hazard severity zones in or near the Bayfront Area of the City of Menlo Park (City of Menlo Park 2016b; CalFire 2022 and 2025). Although the impact analysis presented in this EIR is based on the conditions that existed at the time the NOP was published in June 2023, it is acknowledged that the California Department of Forestry and Fire Protection published updated fire hazard severity zone maps in 2025 which continue to reflect that there are no moderate, high, or very high fire hazard severity zones in or near the Bayfront Area (CalFire 2025). The Project would have no impacts associated with exposure to or exacerbation of the risk of wildfire and associated environmental hazards. Additionally, as discussed in Section 5.8, Hazards and Hazardous Materials, the Project would not significantly affect emergency response or evacuation activities, and the Project would not conflict with or impair implementation of the City's emergency operations plan. Project impacts associated with emergency response and evacuation would be **less than significant**, and the Project would have **no impacts** associated with wildfire hazards.

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6 Other CEQA Considerations

This chapter addresses those topics required to be evaluated under California Environmental Quality Act (CEQA) Guidelines Section 15126.2 that are not evaluated elsewhere in this Environmental Impact Report (EIR). Specifically, this chapter discusses the growth-inducing impacts, significant irreversible changes, and significant and unavoidable effects that would result from implementation of the proposed 1005 O'Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project). Analysis of the Project's significant environmental effects, as required by CEQA Guidelines Section 15126.2(a), is presented throughout Chapter 4 of this EIR. Analysis of the Project's energy impacts, as required by CEQA Guidelines Section 15126.2(b) is presented in Section 3.6, Energy of the Initial Study prepared for this EIR, which is provided in Appendix G2, and the Project's energy consumption is summarized in Section 6.2.3.

6.1 Growth-Inducing Impacts

CEQA Guidelines Section 15126.2(e) requires an EIR to discuss "the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Growth can be induced in a number of ways, including through the elimination of obstacles to growth; through the stimulation of economic activity within the region, including the generation of significant employment opportunities; or through precedent-setting action. CEQA requires a discussion of the physical impacts on the environment that would result if a project induces population, employment, or housing growth in the areas surrounding a project, including an analysis of the infrastructure and planning changes that would be necessary to accommodate induced growth. According to the CEQA Guidelines, it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

This EIR discusses the manner in which the Proposed Project could affect growth in the City of Menlo Park (City) and the Bay Area region by considering both the direct growth associated with the Project as well as the potential for the Project to contribute to indirect growth. Direct growth is considered to include any new residential population that a project may accommodate and/or the number of new households that may be associated with an increase in employment opportunities at a given project site. Indirect growth occurs as a secondary effect of the direct growth, most often as a result of the economic activity associated with the direct growth, as discussed further in Section 6.1.2.

The growth-inducement discussion is provided to inform the public and local decision-makers of the potential long-term growth implications of the Proposed Project. Although CEQA requires a disclosure of growth-inducement effects, an EIR is not required to anticipate and mitigate the effects of a particular project related to growth in other areas. Growth inducement has the potential to result in an adverse impact if the growth is not consistent with or accommodated by the land use and growth management plans and policies for the affected area. Because the general plan of a community defines the location, type, and intensity of growth, it is the primary means of regulating development and growth in that community.

6.1.1 Direct Growth Impacts

As discussed in Chapter 3, Project Description, the Project site is 4.2 acres and is currently developed with three existing office, R&D and warehouse/storage buildings totaling 90,631 square feet of building space as well as surface parking. Approximately 98% of the site is covered in impervious surfaces, including existing buildings and paved roads/parking areas. There is a small area of landscaping along the eastern border of the site as well as 11 trees onsite, with 4 located along the Willow Road frontage and 7 located along the O'Brien Drive frontage (Appendix A2). Sidewalks are also present along Willow Road; however, there are no sidewalks on O'Brien Drive, along the southern border of the Project site. The Proposed Project would redevelop the site by constructing two R&D buildings and one parking structure, and by developing open space, landscaping, and a sports court. Project implementation would occur in two phases, with construction of one building (approximately 154,581 square feet) at 1005 O'Brien Drive and the first five levels of the parking structure in Phase 1 and construction of the second building at 1320 Willow Road (approximately 73,617 square feet) and two additional levels of the parking structure in Phase 2.

The Project is located in the Bayfront Area of the City of Menlo Park, an area that has been planned in the ConnectMenlo General Plan Update for additional residential, office, and life sciences uses. As identified in Chapter 3, Project Description, the Project site is zoned as Life Science Bonus (LS-B). Section 16.44.010 of the Menlo Park Municipal Code provides that the purpose and intent of the LS district is to:

- (1) Attract research and development and light industrial uses, particularly those that support bioscience and biomedical product development and manufacturing and/or are potentially revenue generating businesses;
- (2) Allow administrative and professional office uses and other services that support light industrial and research and development sites nearby;
- (3) Provide opportunities for quality employment and development of emerging technology, entrepreneurship, and innovation; and
- (4) Facilitate the creation of a thriving business environment with goods and services that support adjacent neighborhoods as well as the employment base.

The Proposed Project does not include any residential units and thus would not directly lead to any population increase in the City. As discussed in Impact 4.5-1, the Project is expected to support a total of 570 jobs, which is associated with 305 households (Appendix L, Table 16) but demolition of the existing buildings onsite and would remove the existing potential of 81 jobs to be located the Project site, which is associated with 44 households (Appendix L, Table 13). Thus, the Project would result in a net increase in employment at the Project site of 489 new jobs, which would correlate to a net increase of 261 households. Using the regional average household size of 2.78 people, the households associated with the direct employment generated by the Project could support a total of 726 people. The ConnectMenlo EIR evaluated buildout of the General Plan and projected that the potential development throughout the City, not including the Facebook Campus Expansion or other cumulative projects, would include 5,500 new residential units, up to 14,150 new residents, and 9,900 employees, with most growth located in the Bayfront Area. When the Facebook Campus Expansion and other cumulative projects are included, full buildout of the City compared to the conditions that existed at the time the ConnectMenlo EIR was prepared would include 6 million square feet of new non-residential space, 6,780 new residential units, 17,450 new residents, and 22,450 new employees.

Assuming that all of the new direct Project employees and residents would be located within the City, the Project would represent approximately 2% of the 22,450 new employees under full buildout of the City and 5% of the 9,900 new employees assumed under full buildout of ConnectMenlo not including the Facebook Campus Expansion or other cumulative projects. Further, the new residents associated with the Project's direct employment growth would represent approximately 4% of the 17,450 new residents under full buildout of the City and 5% of the projected new population under ConnectMenlo not including the Facebook Campus Expansion or other cumulative projects. The Proposed Project's addition of new jobs and household demand fit within the ConnectMenlo EIR's assumptions, and the Project is consistent with the ConnectMenlo goals for the area. Additionally, the population growth projections reflected in Plan Bay Area 2050 incorporate the full buildout of ConnectMenlo (ABAG/MTC 2021), thus ongoing buildout of the General Plan and the associated population growth is consistent with local and regional planning documents.

6.1.2 Indirect Growth Impacts

Indirect growth occurs beyond a particular project site but is stimulated by a project's direct growth and/or may result from expansion or extension of infrastructure required to serve a project or removal of an obstacle to other development in the areas such as by constructing a new road or expanding a water or wastewater treatment plant. The Proposed Project does not involve expansion or extension of any infrastructure, and would not remove an obstacle to other development.

Indirect growth that may be stimulated by a project's economic activity is tied to increased direct and indirect investment and spending associated with the new direct growth. For example, during construction phases, construction workers would spend money in the local area, and the expenditure of that money could result in additional job creation. Similarly, a project that constructs new employment uses would bring additional workers to the project area, and money spent by those workers in the local area could result in additional job creation. The indirect jobs generated by a project (referred to as the "multiplier effect") tend to occur relatively close to places of employment but may occur at more distant locales as well.

Construction of the Proposed Project would be relatively short-term with building occurring in two separate phases. If approved, construction of Phase 1 of the Project is anticipated to begin immediately after Project approval and would last approximately 21 months. Phase 2 would require approximately 15 months and is anticipated to begin after the completion of Phase 1. However, an existing business would continue to occupy 1320 Willow Road for the duration of Phase 1 and could remain in place through 2034. Thus Phase 2 construction could begin as late as 2034.

These construction periods would not create long-term employment opportunities that could result in an increased demand for local housing. As discussed in Impact 4.5-1, the construction labor force for the Proposed Project is anticipated to come from existing workforce in the Bay Area, which includes approximately 40,000 residents within the San Francisco-Redwood City-South San Francisco MD (EDD 2024). Although some would commute from outside the Bay Area, because of the temporary nature of construction, these workers would not be expected to relocate permanently. Thus, it is expected that Project construction would cause negligible, if any, population growth and associated effects on regional or local housing demand. Therefore, employment opportunities associated with Project construction is not expected to lead to relocation of workers or contribute to the housing demand in the Bayfront Area (Appendix L).

As discussed in Section 4.5, the direct employment growth supported by the Project would lead to additional indirect and induced employment growth, and associated population growth. The economic activity associated with the Project is projected to generate indirect and induced employment growth of 401 jobs which would correlate to an additional 223 households within the Project region (based on an average 1.80 workers per household) (Appendix L, Table 17), however demolition of the existing buildings onsite and would remove 41 indirect and induced jobs and 23 households from the region (Appendix L, Table 14). Thus, the net employment and population growth associated with indirect and induced employment growth generated by the Project would be 360 new jobs, 200 households, and an additional 556 residents in the region. As discussed in Section 4.5, it is not expected that all of the indirect and induced employees and residents would be located within the City. Considered at the regional level, the increase in regional employment (including direct, indirect, and induced jobs) would be 0.06%. These increases are consistent with regional projections. It is expected that there will be approximately 1.4 million new jobs between 2015 and 2050 throughout the region (MTC/ABAG 2021), with employment growth in San Mateo County of 29% (114,000 jobs) (City of Menlo Park 2023).

Thus, the direct, indirect, and induced employment growth attributed to the Project and the associated increase in the number of households within the City and within the two-county region is considered to be consistent with population growth projections. The Project would not create substantial amounts of unplanned growth or a demand for housing that would exceed City and ABAG projections and the Project is expected to have a negligible impact on the regional housing market, jobs-housing balance, and displacement pressures.

6.2 Significant Irreversible Changes

Section 15126.2(d) of the CEQA Guidelines requires an EIR to evaluate the significant irreversible environmental changes that could be caused by implementation of a particular project. Irreversible environmental changes involve large commitments of nonrenewable resources or irreversible damage, such as damage that can result from environmental accidents. CEQA Guidelines Section 15126.2(d) discusses three categories of significant irreversible changes that should be considered. Each is addressed below.

6.2.1 Change in Land Use that Commits Future Generations to Similar Uses

The Project site is within the Bayfront Area of the City and generally surrounded by office, industrial, and residential uses, in addition to open space within the Hetch Hetchy water line right-of-way immediately north of the site and the Mid-Peninsula High School north of the right-of-way. The approximately 4.2-acre Project site spans three existing adjacent parcels. In addition, approximately 1,230 square feet in the southwest corner of APN 055-421-190, which currently contains a portion of the surface parking lot for 1035 O'Brien Drive, would be added to the Project site while an equal area in the northeast corner of APN 055-421-060 would be added to the 1035 O'Brien Drive parcel. Willow Road borders the site to the west and O'Brien Drive borders the site to the south. As noted above, the site currently supports three existing office, R&D and warehouse/storage buildings totaling 90,631 square feet of building space as well as surface parking. The Proposed Project would demolish the existing structures and construct two R&D buildings, a parking garage, and open space, as summarized in Section 6.1 and described in Chapter 3.

Construction of the Proposed Project would occur on land that is designated by the General Plan and Zoning Ordinance for Life Sciences uses and currently supports office, R&D and warehouse/storage buildings. The Proposed Project would be similar to the existing uses at the site and consistent with the existing zoning for the site. In the future, the site could be rezoned or redeveloped with a different use also allowed in the existing life sciences zoning. This would be similar to the current condition, in which the existing buildings have reached the end of their useful life and are proposed to be replaced with a similar but somewhat different land use. This is in contrast to large infrastructure projects that are rarely moved or dismantled once constructed. Therefore, the Proposed Project would not commit future generations to a specific land use.

6.2.2 Irreversible Damage from Environmental Accidents

No significant environmental damage, such as damage from release of hazardous materials during Project construction ground disturbing activities or an accidental spill of a hazardous material, is anticipated to occur with development of the Proposed Project. As described in Chapter 4.3, Hazards and Hazardous Materials, a combined Phase I and Phase II Environmental Site Assessment (ESA) was prepared for the Project site (Appendix D). The ESA found that there were no known prior releases of hazardous materials at the Project site or in the vicinity that could lead to a release of hazardous materials during Project construction ground disturbing activities.

Project construction activities would involve the temporary storage, use, and transport of hazardous materials (e.g., fuels, lubricants, paint, solvents, cleaners). As noted in Section 4.3, given the ages of the existing buildings onsite, asbestos-containing material and lead-based paints were likely to have been used in their construction (Appendix D). Thus, demolition of the buildings could result in release of these hazardous materials into the environment. However, Project construction would be short-term and would not result in the long-term routine transport of hazardous materials.

Section 4.3 also identifies that laboratories associated with R&D/life science uses typically use various materials that can pose a hazard to human health and the environment if they are not managed correctly. Such materials are collectively referred to as microorganisms, biologic materials and/or biohazards. These include naturally-occurring bacteria, viruses, molds, yeasts, toxins (which are produced by plants, molds, bacteria), as well as altered bio-organisms which are natural organisms that have been subject to changes in their DNA through life sciences research and development activities.

R&D/life science laboratories are categorized by biosafety levels (BSLs) 1 through 4. These levels correspond to containment measures needed based on the specific types and nature of the biologic materials and/or biohazardous materials that are used in the facility, as discussed in detail in Section 4.3. All new laboratories that use hazardous materials or generate biohazardous waste are required to obtain a permit for hazardous materials and/or medical waste generation, which will trigger review. Regardless of the BSLs for individual laboratory activities that may be located within the Proposed Project, all tenants of the Proposed Project buildings would be required to comply with all applicable federal, State, and local standards, including providing the appropriate containment measures to minimize the potential for a release of hazardous materials.

No irreversible changes, such as those that might result from construction of a large-scale mining project, a hydroelectric dam project, or major institutional project, would result from development of the Proposed Project.

6.2.3 Large Commitment of Nonrenewable Resources

The Proposed Project would provide approximately 228,198 square feet of R&D space spread between two proposed buildings and an approximately 312,300 square-foot parking structure. The Project would also develop approximately 59,344 square feet of open space, of which approximately 31,535 square feet would be publicly accessible.

Project development would require the use of materials such as lumber, steel, copper, plastics, and aggregate materials, as well as fossil fuels, during construction. The source metals used, unless they come from recycled materials, would represent an irreversible use of resources. Fossil fuels used during construction would represent an irreversible use of oil. As discussed in Initial Study Section 3.6, Energy, the Proposed Project would consume an estimated 85,394 gallons of diesel fuel and 5,471 gallons of gasoline during construction; construction is not expected to require use of natural gas (Appendix G2).

The proposed buildings would be constructed using modern, energy-efficient building materials and construction practices, in accordance with California Building Energy Efficiency Standards, the California Green Building Standards Code, and the California Public Utility Commission's Long-Term Energy Efficiency Strategic Plan. In addition, the Project would implement the California Building Code CalGreen Non Residential Voluntary Measures Tier 2, which would allow the Project to achieve a high degree of energy-efficiency, and it would be constructed consistent with Menlo Park Municipal Code Chapter 12.18, which contains the City's Green Building Ordinance, and Municipal Code Section 16.44.130, which identifies additional green and sustainable building standards applicable to development within the LS zone district. Under the Municipal Code, all new buildings within the Bayfront Area are required to comply with specific green building requirements for Leadership in Energy and Environmental Design (LEED) certification, provide electric vehicle (EV) charging stations and 'EV Ready' parking spaces (meaning conduit would be installed below the parking space surface to support future installation of additional EV charging stations), provide onsite renewable energy generation, and enroll in the U.S. Environmental Protection Agency's Energy Star Building Portfolio Manager. These requirements would ensure that the proposed buildings are more energy efficient than the existing buildings at the Project site and do not consume energy in a wasteful or inefficient manner.

During operation, the Proposed Project's energy demand is estimated to be as follows:

- **Electricity:** Air quality modeling indicates that the Project would consume approximately 2,987,950 kWh of electricity per year, which would represent an increase in electricity demand by 1,557,646 kWh per year compared to the existing energy usage at the Project site. This increase would be due to the change in land use and increase in building square footage. Although total energy use at the Project site would increase, the energy use per square foot would decrease in comparison with the existing buildings because of the energy-efficient design of the proposed buildings and sustainability features. Specifically, the existing buildings are estimated to consume approximately 17.19 kWh annually per square foot while the Proposed Project buildings are estimated to consume approximately 13.10 kWh annually per square foot. Further, the modeling does not account for all of the green building features

proposed as part of the Project. These features include installation of a 5-kW rooftop photovoltaic system on the 1005 O'Brien Drive building, and reaching LEED Gold certification for the 1005 O'Brien Drive building and LEED Silver certification for the 1320 Willow Road building. Thus, electricity demand would likely be lower than the modeling estimates. Additionally, the City's Municipal Code requires that all electricity come from renewable sources, as discussed further below.

- **Natural Gas:** The proposed buildings would rely on 100% renewable electric power, other than the proposed use of natural gas instead of renewable electricity for space conditioning, which is necessary because R&D buildings require higher levels of system reliability to maintain the viability of science functions taking place within the laboratory setting (Appendix I). To assess the proposed use of natural gas, the CalEEMod default natural gas consumption rates for hospital uses and for the Project site's climate zone were used and adjusted based on compliance with 2019 Title 24. The CalEEMod modeling indicates that the Project would consume approximately 5,611,640 thousand British thermal units (kBtu) per year after full Project buildout. The existing buildings at the Project site were estimated to use approximately 2,137,990 kBtu of natural gas in 2022. As such, upon implementation of the Project, natural gas demand at the Project site would increase by approximately 3,473,750 kBtu per year.
- **Other Fuel:** Operation of the Project would consume 159,596 gallons of petroleum per year from vehicle trips traveling to and from the Project site. Based on modeling estimates, the existing buildings within the site currently consume 59,338 gallons of petroleum per year. Therefore, implementation of the Project would lead to an increase in petroleum consumption of 100,258 gallons per year. A negligible amount of petroleum would also be used onsite for periodic testing of the emergency generators.

To the extent that electricity for the Proposed Project comes from carbon-free and renewable sources (e.g., hydropower, sun, wind, geothermal), the Project would not represent an irreversible use of resources. As discussed in Initial Study Section 3.6 Peninsula Clean Energy is the default energy provider throughout San Mateo County and Peninsula Clean Energy obtains all of its electric power from renewable resources (e.g., water, wind, and solar) and carbon-free sources (e.g., hydroelectric and geothermal) (Appendix G2). Menlo Park Municipal Code Section 16.44.130 requires that the Proposed Project meet 100 percent of its energy demand with renewable sources, which may include onsite energy generation, purchase of renewable electricity, or purchase of certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to the annual energy demand of the Proposed Project. Thus, the Project is not expected to consume non-renewable resources for its electricity use. However, the Proposed Project's use of natural gas, which is a non-renewable source, would represent an irreversible use of that resource.

6.3 Significant and Unavoidable Impacts

Section 21100(b)(2)(A) of CEQA requires a Draft EIR to identify any significant environmental effects that cannot be avoided. The analysis presented throughout Chapter 4 demonstrates that implementation of the mitigation measures recommended in this EIR would reduce most impacts of the Proposed Project to less-than-significant levels. The Proposed Project would result in three significant and unavoidable impacts due to the inclusion of natural gas infrastructure allowing use of natural gas, as discussed in Impacts 4.2-1, 4.2-2, and 4.2-3. Specifically, the Project would require the use of natural gas for building heating and thus:

- Would not comply with the Bay Area Air District (BAAD) guidance, which provide that projects may be found to have less than significant GHG impacts only if they exclude the use of natural gas;
- Would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs; and
- Would make a cumulatively considerable contribution to global climate change.

Although the Project's use of natural gas would result in a significant and unavoidable impact, the analysis of Impact 4.2-1 demonstrates that the Project would minimize this effect by purchasing carbon offsets for the life of the Project, implementing the California Building Code CalGreen Non Residential Voluntary Measures Tier 2, which would allow the Project to achieve a high degree of energy-efficiency; comply with other BAAD standards by not resulting in any wasteful, inefficient, or unnecessary electrical usage, providing EV charging stations and EV Ready parking spaces; and by implementing transportation demand management measures to reduce the vehicle miles traveled generated by the Project.

The analysis of Impact 4.2-1 also identifies that there are no feasible mitigation measures to reduce these impacts to a less-than-significant level because achieving compliance with the BAAD Option A threshold and consistency with applicable GHG reduction plans would require that no natural gas be used as part of the Project. However, the Project sponsor has submitted separate feasibility analysis for each Project phase demonstrating that the use of natural gas is essential for the laboratory space functions intended for the Proposed Project and all electric is infeasible for this Project; both of the feasibility analyses were validated by the City and a third-party peer reviewer. As discussed in more detail in Impact 4.2-1, the feasibility analyses document that Life Sciences/R&D buildings require higher levels of system reliability to maintain the viability of science functions taking place within the laboratory setting compared to office and residential buildings. Specifically, buildings that include laboratory space (as in the Proposed Project) require 100% outside air circulation and must be designed with tight tolerance of space conditioning to avoid jeopardizing the building occupant's science experimentation and/or production activities (Appendix I).

6.4 References Cited

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7 Alternatives

7.1 Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15126.6(a), environmental impact reports (EIRs) are required to “describe a range of reasonable 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.” As the alternatives analysis is prepared in support of CEQA’s goals to foster informed decision making and public participation, it is not required that the environmental effects of each alternative be evaluated at the same level of detail as the effects of the Proposed Project. Instead, the analysis must include enough information to allow meaningful evaluation, analysis, and comparison with the Proposed Project.

Further, an EIR is governed by a “rule of reason” that requires it only to evaluate “those alternatives necessary to permit a reasoned choice” (CEQA Guidelines Section 15126.6[f]) and does not need to consider “every conceivable alternative” to a project (Section 15126.6[a]). CEQA states that an EIR should not consider alternatives “whose effect cannot be ascertained and whose implementation is remote and speculative” (Section 15126.6(f)), or alternatives that are infeasible (Section 15126.6(a)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the alternatives evaluation process and should briefly explain the reasons underlying the lead agency’s determination (Section 15126.6(c)).

It is appropriate to consider alternatives even if they “would impede to some degree the attainment of the project objectives or would be more costly” (CEQA Guidelines Section 15126.6[b]), so long as the alternative would “feasibly attain most of the basic objectives of the project” (Section 15126.6(a)). The alternatives should be “potentially feasible” (Section 15126.6[a]), but inclusion of an alternative in an EIR does not constitute definitive evidence that the alternative is in fact “feasible.” The final decision regarding the feasibility of alternatives lies with the decision makers for a given project who must make the necessary findings addressing the feasibility of alternatives for avoiding or substantially reducing a project’s significant environmental effects (California Public Resources Code, Section 21081; CEQA Guidelines Section 15091).

This chapter describes the project alternatives selected for analysis, evaluates the environmental impacts associated with them, and compares the impacts with those of the 1005 O’Brien Drive and 1320 Willow Road Life Sciences/Research and Development (R&D) Project (Proposed Project or Project). This chapter also identifies those alternatives considered by the City of Menlo Park (City) but not carried forward for detailed analysis and the basis for the City’s decision to omit those alternatives from the detailed analysis.

In conformity with CEQA, the purpose of this analysis is to focus on alternatives that are potentially feasible, and that would avoid or substantially lessen any of the significant effects of the project. The analysis in the Environmental Analysis, Sections 4.1 through 4.7, finds that the Proposed Project would result in significant and unavoidable impacts related to greenhouse gas (GHG) emissions because the project would include natural gas appliances and plumbing and thus is not consistent with the Bay Area

Air District (BAAD)¹ guidance. Specifically, Section 4.2 finds that the Project would have significant and unavoidable impacts because the inclusion of natural gas appliances or plumbing is not consistent with BAAD Thresholds of Significance for Land Use Projects (BAAQMD 2022), thus the Project may have a significant impact on the environment (Impact 4.2-1) and would conflict with adopted plans, policies, and regulations adopted to reduce GHG emissions (Impact 4.2-2). Additionally, Section 4.2 concludes that the inclusion of natural gas appliances and plumbing in the Project would make a substantial contribution to a significant cumulative impact (Impact 4.2-3). This analysis discusses whether the project alternatives could avoid or substantially reduce those impacts as well as whether the project alternatives could reduce any of the project's impacts that require mitigation to bring the impact to a less than significant level.

7.2 Project Objectives

CEQA requires an EIR to include a statement of objectives for the Proposed Project, including the underlying purpose of the Project. As noted in the CEQA Guidelines, these objectives help the lead agency to determine which Project alternatives to evaluate in the EIR (CEQA Guidelines Section 15124(b)). The overarching intent of the Proposed Project is to deliver buildings that would support R&D tenants within the Bayfront Area of the City, consistent with the General Plan and zoning, in addition to providing publicly accessible open space uses. More specifically, the objectives for the Proposed Project are as follows:

- To build new cutting-edge R&D buildings that will cater to the Bay Area and Stanford entrepreneurial community, as well as life sciences companies both regionally and nationally, by providing space for reliable laboratory and research uses, with accessory office areas and tenant amenities such as private outdoor areas.
- To develop an environmentally sustainable, high-quality aesthetic facility with the flexibility to accommodate a single R&D tenant or meet the needs of multiple tenants.
- To create a Project that grows a broad socioeconomic base of jobs as well as a business-to business tax base for the City of Menlo Park.
- To develop space that will accommodate R&D employees and jobs in the new Life Sciences district.
- To provide or pay in-lieu fees to fund community amenities for surrounding neighborhoods consistent with ConnectMenlo goals and policies.
- To achieve Leadership in Energy and Environmental Design (LEED) Gold and Silver certifications or equivalent.
- To enhance public accessibility from O'Brien Drive and Willow Road to potential future public open spaces along the Hetch Hetchy right-of-way, while also providing private (non-public) open space opportunities onsite.

¹ The Bay Area Air Quality Management District (BAAQMD) changed its name to the Bay Area Air District (BAAD) in January 2025.

7.3 Summary of Project Alternatives

7.3.1 Development of Project Alternatives

In developing the project alternatives evaluated in this EIR, the EIR preparers worked with city staff to explore various modifications to the project that could reduce environmental effects while responding to the project objectives and reflecting any suggestions for project alternatives that were provided in the public comments received in response to the Notice of Preparation.

7.3.2 Alternatives Considered but Rejected

In addition to the alternatives selected for additional analysis, the following alternatives were initially considered but rejected from further consideration. CEQA Guidelines Section 15126.6 provides the following reasons to eliminate potential alternatives from detailed consideration in an EIR: (1) failure to meet most of the basic project objectives, (2) infeasibility, and (3) inability to avoid significant environmental impacts. Factors that may be considered to determine if an alternative is feasible include site suitability, economic viability, and general plan consistency. The following alternatives were preliminarily considered but rejected from further evaluation for the reasons described below.

1. **Off-site Alternative:** Under this potential alternative, the Proposed Project would be developed on another site within the city. If the project were located outside of the Bayfront Area, the Off-site Alternative would not meet the goals of the ConnectMenlo General Plan Update related to creating a Life Sciences district within the Bayfront Area. If the project were located on another site within the Bayfront Area, the Off-site Alternative would provide the same contribution to achievement of the ConnectMenlo goals for redevelopment of the Bayfront Area, but would not be expected to reduce or avoid any of the project's significant or potentially significant effects because this alternative would require natural gas appliances and plumbing, result in similar amounts of air pollution and noise within the same general area as the Proposed Project, generate similar amounts and lengths of vehicle travel, likely have the same potential to encounter cultural resources and tribal cultural resources, have similar geologic (including groundwater) and paleontological conditions as are associated with the Project site, and likely require demolition of existing structures which could contain hazardous materials. In the event that the Proposed Project were to be developed at an alternative site that is currently vacant or contains less building space to be removed than the Project site, the degree to which the Off-site Alternative contributes to attainment of the ConnectMenlo goals for redevelopment of the Bayfront Area would be less than that of the Proposed Project because the Project site would remain under its current comparatively less intensive use. Additionally, this alternative would have reduced benefits related to improved energy efficiency and enhanced stormwater management relative to redevelopment of the Project site under the Proposed Project. Therefore, this alternative was not further considered or evaluated in this EIR.
2. **Other Land Use Alternative:** Under this alternative, the Project site would be redeveloped with land uses other than R&D, such as commercial or industrial uses. This alternative was rejected from further consideration because while these other land uses may be permitted in the Life Sciences district (Municipal Code Section 16.44.020), they would not be consistent with or support the

primary purpose and intent of the Life Sciences district, which is to “attract research and development and light industrial uses, particularly those that support bioscience and biomedical product development and manufacturing and/or are potentially revenue generating businesses.” (Municipal Code Section 16.44.010). An alternative that does not include life sciences or R&D uses at the Project site would be inconsistent with the goals of the zoning designation and with other property in the Life Sciences district developed for life sciences and R&D uses. Additionally, an alternative that includes industrial uses could create greater environmental effects than the Proposed Project, such as higher noise levels and potential to expose nearby residents and schools to adverse health effects. Further, and most importantly, this alternative would not achieve the basic project objectives related to developing an R&D project.

3. **Mixed-Use Alternative.** This alternative would be similar to the Proposed Project in that it would include two R&D buildings, a parking structure, and open space. This alternative would modify the Proposed Project by adding an approximately 3,000-square-foot ‘grab and go’ café or retail sales establishment on the ground floor of the building at 1005 O’Brien Drive. The commercial use would be located in the building’s entry lobby and would be open to the public. Municipal Code Section 16.44.050 allows an additional 10% FAR for the Project site when a commercial use is included. Thus, this alternative anticipates that the footprint of the 1005 O’Brien Drive building would be increased by approximately 600 square feet to accommodate the commercial use and expand the upper five floors to replace the ground floor R&D space that was reallocated to the commercial use. This alternative would increase the building size and massing of the ground floor level and require a minor reconfiguration of the site plan to remove surface parking spaces, and/or reduce the amount of open space provided onsite, and/or require the addition of parking spaces to the parking structure. Thus, this alternative could incrementally increase the Project’s adverse aesthetic effects by creating a slightly larger building and possibly reducing open space. This alternative would require natural gas appliances and plumbing for the laboratory uses and emergency generators and thus it would not reduce or avoid the Project’s significant and unavoidable GHG impacts. Further, this alternative would not be capable of reducing any of the other significant or potentially significant impacts of the Proposed Project and would continue to require implementation of all the mitigation measures required for the Proposed Project.

Additionally, a ‘grab and go’ café is included in the 1125 O’Brien Drive Project, which is under review by the City. 1125 O’Brien Drive is located approximately 0.25 miles east of the Proposed Project site. The addition of a similar commercial use at the Proposed Project could result in an oversupply of café uses in the project area. Further, it is considered unlikely that a non-food related retail sales use or personal services uses would be economically viable at this location because it would be isolated from other retail uses and thus would not have the benefit of the synergy and volume of foot traffic that occurs when multiple retail uses are located in proximity to each other.

4. **No Fossil Fuel Alternative:** Under this alternative, no use of natural gas or diesel fuel would be permitted within the Project site. The R&D buildings and parking structure would rely entirely on electricity and the back-up generators would use batteries. Under this alternative, the Project site would support the same size and type of buildings as proposed, including having the same Floor Area Ratio (FAR), gross square footage, footprint, and height; the same parking structure; the same open space; and the same number of employees as the Proposed Project. This alternative would reduce the amount of GHG emissions generated by the project and would avoid the project’s

significant and unavoidable GHG impacts because it would comply with the BAAD standards by avoiding the use of natural gas appliances and/or plumbing in project operation (BAAQMD 2022). However, this alternative is considered infeasible because the project applicant has submitted information demonstrating that the use of fossil fuels is essential for the R&D functions intended for the Proposed Project.

Specifically, the Project applicant provided natural gas usage justification memoranda (one for each development Phase) that were prepared by expert heating, ventilation, and air conditioning consultants and validated by a City-approved third-party peer review, all of which are included in Appendix I. These documents support the conclusion that reliance on all-electric space conditioning (specifically heating) for the proposed R&D buildings is infeasible, primarily due to system reliability constraints. Although the City has found that electrification can be more cost effective for some uses, the natural gas usage justification memoranda explain that this does not apply to R&D buildings where installing and operating all-electric space conditioning introduces unacceptable risk of operational failure, and that the cost is significantly more than for a natural gas system, and therefore installing and maintaining a potentially unreliable all-electric system is practically infeasible and introduces unknown maintenance costs that in aggregate make it both practically and financially infeasible for developers. The memoranda explain that buildings that primarily provide office space and do not include R&D laboratory uses can rely on an all-electric design that uses technologies that have been in place and vetted for years. Such buildings have relatively light energy demand loads compared to laboratory buildings and can use air recirculation to further reduce those loads. In those situations, an all-electric design can be implemented to reduce carbon emissions and increase the building's energy performance. In contrast, buildings that include laboratory space (as in the Proposed Project) must be designed with tight tolerance of space conditioning to maintain the viability of science functionality taking place within the laboratory setting. Further, laboratory spaces require 100% outside air circulation. The introduction of variable outside air circulation conditions requires tighter control from the mechanical equipment for laboratory environments. Unlike occupant comfort, which is the main design function of office and residential uses, compromise of space conditioning in laboratory settings can lead to failure of occupant science, either experimentation or production (Appendix I).

This alternative was rejected from further analysis because it is infeasible. Electric cooling is considered feasible for the Proposed Project and is included in the Proposed Project design. However, electric heating options are considered infeasible because of the size and configuration of the buildings, the heating capacity, and the lab usage. R&D buildings, as opposed to other building uses, require a tight level of temperature control and system reliability. If consistent building temperature in the lab areas cannot be maintained, the fluctuation could adversely affect experimentation and production (Appendix I).

5. **Reduced Parking Alternative:** This alternative would consist of redeveloping the Project site with the same amount of R&D building space as under the Proposed Project but would reduce the amount of onsite parking to meet the minimum parking requirement under the Municipal Code. Specifically, Municipal Code Section 16.44.080 allows a minimum of 1.5 parking spaces and a maximum of 2.5 parking spaces per 1,000 square feet of light industrial or R&D building space. The Proposed Project includes 228,198 square feet of building space, which would require 342 parking spaces at the minimum standard of 1.5 parking spaces per 1,000 square feet of building

space. The Project proposes to provide a total of 520 parking spaces (approximately 2.3 spaces per 1,000 square feet). Thus, applying the minimum requirement would develop the site with 178 fewer parking spaces than the Proposed Project. This could be accomplished by reducing the height of the parking structure to an approximately 50-foot tall, five-level structure, containing 4.5 levels of parking.

This alternative was initially considered to evaluate whether it could achieve a greater reduction in vehicle miles traveled (VMT) and associated reductions in noise, air quality, and GHG impacts than would occur under the Proposed Project. The Proposed Project would provide 2.3 parking spaces per 1,000 square feet of building space, which is within the allowable range established in the Municipal Code. The Proposed Project would also implement a Transportation Demand Management (TDM) plan (Appendix M2) that would meet the requirements of the Municipal Code. As discussed in the Transportation Impact Analysis (Appendix M1) and Section 4.6 of this EIR, implementation of the TDM plan would reduce the Proposed Project's VMT by 36%. This would exceed the requirements of both the City's Municipal Code, which requires a 20% reduction of vehicle trips compared to the typical trip generation rates for a proposed use, and the City/County Association of Governments of San Mateo County (C/CAG) San Mateo County Congestion Management Program (CMP), which requires a 35% reduction in vehicle trips. The reduction in daily vehicle trips directly correlates to an proportional reduction in VMT.

The TDM plan includes several measures intended to reduce trips to and from the Project site, such as preferential carpool and vanpool parking, a guaranteed ride home program, subsidized transit tickets, shuttle service to and from transit locations, and provision of bicycle facilities and showers. Reducing vehicle trips to and from the Project site would also reduce the overall parking demand. Reducing the number of parking spaces without implementation of additional TDM measures would not reduce the number of vehicles trips to and from the site and the associated VMT. Thus, a reduced parking alternative is not expected to be capable of reducing any of the Project's significant or potentially significant impacts or precluding the need to implement the mitigation measures identified throughout this EIR. Further, reducing the number of parking spaces onsite would have no effect on the Project's inclusion of natural gas appliances and plumbing for building heating, thus, this alternative would not be capable of reducing or avoiding the Project's significant and unavoidable GHG impact.

Finally, given the characteristics of the Proposed Project and the Project area, reducing the amount of onsite parking would not result in additional reductions in VMT beyond the reductions that would be achieved with implementation of the TDM plan. The TDM plan includes support for employees to use transit, and the TDM plan already accounts for the fullest degree of transit usage that is supported by local and regional data regarding travel mode choices made by commuters. Reducing parking would not be likely to further increase use of transit. Instead, reducing the amount of onsite parking would introduce a potential for spillover parking because adjacent neighborhoods generally do not have controlled parking through permits, parking time limits, or metered parking. Thus, vehicle trips would likely continue to the area, and any parking demand not met onsite would result in commuters using on-street parking in the Project vicinity, including in adjacent residential neighborhoods. If visitors and commuters turn to ride hailing to avoid having to park offsite, this would not be likely to reduce the number of vehicle trips made to and from the site.

In conclusion, the Project would implement a robust TDM plan which would reduce the Project's VMT by 36% and no additional reduction in VMT would be realized by reducing the amount of onsite parking. Limiting parking supply at the Project site could result in spillover parking onto adjacent streets and properties, and in some circumstances could even increase vehicle trips and other related impacts. This alternative would not be capable of reducing or avoiding any of the Proposed Project's significant, potentially significant or significant and unavoidable impacts and could result in additional adverse effects in the Project vicinity. Therefore, this alternative has been rejected from further consideration.

7.4 Project Alternatives Selected for Analysis

This section provides an evaluation of the environmental effects of each alternative relative to the environmental effects of the Proposed Project. These conclusions are listed in the alternatives summary matrix provided in Table 7-4 at the end of this chapter.

A brief overview of each alternative selected for analysis is provided below while subsequent sections provide additional description of the alternative and present analysis comparing the impacts of each alternative to those of the Proposed Project.

1. **No Project Alternative.** This alternative assumes the Project site would not be redeveloped and would remain in its current condition. The existing office, R&D and warehouse/storage buildings would remain untouched and new R&D buildings would not be constructed.
2. **Base Level Development Alternative.** The Base-level Development Alternative would develop the Project site at the maximum level allowed by the base-level development standards for the Life Sciences zone district. The Base-level Development Alternative would not contribute community amenities either directly or via payment of the City's in-lieu fee for the benefit of the surrounding neighborhoods because the requirement to provide community amenities only applies to bonus-level development projects. This alternative would include demolition of existing buildings, and construction of two R&D buildings at the base level building height. The Municipal Code allows a maximum height of 45 feet plus up to 14 feet for roof mounted equipment and an FAR of 55%. The development assumptions for this Base Level Development Alternative are shown in Table 7-1. Under the maximum FAR of 55%, the project site could support a total of approximately 100,439 square feet of building space. Given that each level in the proposed R&D buildings would have a height of 17 feet, it is assumed that both buildings in this Alternative would have two stories, for a total building height of approximately 35 feet, with additional height for stairs, elevators, and rooftop equipment screening. The building at 1005 O'Brien Drive would have a footprint of approximately 28,625 square feet, a second floor with approximately 27,250 square feet, and approximately 1,870 square feet for rooftop stair and elevator towers and storage, for a total building space of 57,745 square feet. The building at 1320 Willow Road would have a footprint of approximately 20,715 square feet, a second floor with approximately 19,875 square feet, and approximately 1,740 square feet for rooftop stair and elevator towers and storage, for a total building space of 42,330 square feet. Each of the R&D buildings would have an accessory structure for chemical storage consisting of approximately 180 square feet. Thus, the total floor area onsite would be approximately 100,435 square feet.

Using the same parking ratio as the Proposed Project of one space for every 439 square feet of space within the R&D buildings, this alternative would include approximately 229 parking spaces. The parking structure would have the same footprint as the Proposed Project (27,900 square feet) and would contain 3 levels of parking with a total of approximately 213 parking spaces. There would also be approximately 16 surface parking spaces (compared to the 23 surface parking spaces in the Proposed Project). With slight reductions in the R&D building footprints and surface parking, this alternative would include slightly more open space than the Proposed Project with approximately 62,079 square feet of open space.

3. **Midrange Development Alternative.** This Alternative would develop the Project site with an FAR of 90%, which is midway between the maximum base level FAR of 55% and the proposed FAR of 125%. The maximum allowable floor area would be 164,354 square feet. The Midrange Development Alternative would contribute community amenities either directly and/or via payment of the in-lieu fee for the benefit of the surrounding neighborhoods, but they would be reduced as compared to the Proposed Project because the amount of community amenities required is based on the amount by which a bonus-level development project exceeds the building space allowed under the base zoning. The development assumptions for this Midrange Development Alternative are shown in Table 7-1. The 1005 O'Brien Drive building would have the same footprint as under the Proposed Project of approximately 29,640 square feet, approximately 28,265 square feet on the second floor, approximately 26,750 square feet on the third floor, approximately 13,180 square feet on the fourth floor, and approximately 1,870 square feet for roof top stairs and elevator towers. The building would have a total floor area of approximately 99,705 square feet. Approximately half of this building would be three stories with a height of 51 feet (not including rooftop stair and elevator towers and mechanical equipment screening) while the other half would be four stories with a height of 68 feet. The building at 1320 Willow Road would have the same footprint and second and third floors as under the Proposed Project, with a footprint of approximately 21,312 square feet, approximately 20,270 square feet on the second floor, approximately 20,923 square feet on the third floor, and approximately 1,740 square feet for rooftop stair and elevator towers and storage. This building would have a total floor area of 62,245 square feet. Each of the R&D buildings would have an accessory structure for chemical storage consisting of approximately 200 square feet. Thus, the total floor area onsite would be approximately 164,350 square feet.

Using the same parking ratio as the Proposed Project of one space for every 439 square feet of building space, this alternative would include 374 parking spaces. The parking structure would have the same footprint as the Proposed Project (27,900 square feet) and would contain 5 levels of parking with a total of approximately 351 parking spaces. There would also be 23 surface parking spaces, consistent with the Proposed Project. With the footprint for each R&D building and the parking structure being generally the same as under the Proposed Project, this alternative would include the same amount of open space as the Proposed Project, which is 59,344 square feet.

Table 7-1. Proposed Project and Alternatives Development Assumptions

Project Element	Proposed Project	Base Level Development Alternative	Midrange Development Alternative
Floor Area Ratio	125%	55%	90%
Total building space	228,398 SF	100,435 SF	164,350 SF
1005 O'Brien Drive			
Footprint area	29,643 SF	28,625 SF	29,640 SF
Additional levels area	2nd floor: 28,265 SF 3rd floor: 30,962 SF 4th floor: 30,962 SF 5th floor: 30,962 SF Roof conference: 1,670 SF	2nd floor: 27,250 SF	2nd floor: 28,265 SF 3rd floor: 26,750 SF 4th floor: 13,180 SF
Height	85 feet plus 14 for parapet and towers	35 feet plus 14 for parapet and towers	Approximately half at 51 feet plus 14 for parapet and towers; other half at 68 feet plus 14 for parapet and towers
Roof top stairs/elevator towers/roof storage area	1,917 SF	1,870 SF	1,870 SF
Total building floor area	154,581 SF	57,745 SF	99,705 SF
Chemical storage	200 SF	180 SF	180 SF
1320 Willow Road			
Footprint area	21,312 SF	20,715 SF	21,312 SF
Additional levels area	2nd floor: 20,270 SF 3rd floor: 20,923 SF 4th floor: 8,912 SF	2nd floor: 19,875 SF	2nd floor: 20,270 SF 3rd floor: 20,923 SF
Height	68 feet plus 14 for parapet and towers	35 feet plus 14 for parapet and towers	51 feet plus 14 for parapet and towers
Roof top stairs/elevator towers/roof storage area	2,200 SF	1,740 SF	1,740 SF
Total building floor area	73,817 SF	42,330 SF	64,245 SF
Chemical storage area	200 SF	180 SF	180 SF
Parking			
Parking structure footprint area	27,900 SF	27,900 SF	27,900 SF
Parking structure levels/height	7 levels/73 feet	3 levels/37 feet	5 levels/52 feet
Number of parking structure spaces	497	213	351
Number of surface parking spaces	23	16	23
Total onsite parking	520	229	374

Table 7-1. Proposed Project and Alternatives Development Assumptions

Project Element	Proposed Project	Base Level Development Alternative	Midrange Development Alternative
Open Space			
Open space area	59,344 SF	62,079 SF	59,344 SF

Note:

1. Total building space includes the total floor area of each R&D building. It excludes floor area of the parking structure and chemical storage enclosures.

7.4.1 No Project Alternative

CEQA requires that an EIR consider a No Project alternative, which could be one in which no development occurs within the project site or could be one in which development consistent with the General Plan and zoning designations occurs. Given that the project site is already developed, the No Project alternative assumes the site would remain in its current condition and that no demolition or redevelopment would occur.

Air Quality

As discussed in Section 4.1, the Proposed Project was found to have potentially significant air quality impacts related to the release of fugitive dust/particulate matter and toxic air contaminant (TAC) emissions during project construction, both in terms of the Project-specific impacts and the Project's contribution to cumulative impacts. The Proposed Project would be required to implement Mitigation Measures (MMs) 4.1a and 4.1b to reduce these impacts to less-than-significant levels. MM 4.1a ensures that the project would implement the BAAD recommended best management practices to minimize release of fugitive dust/particulate matter and MM 4.1b requires that all 200-horsepower or greater diesel-powered equipment is powered with California Air Resources Board (CARB)-certified Tier 4 Final engines, unless an exemption is granted. As shown in Table 4.1-8, the Project's daily construction and operational emissions of criteria air pollutants would remain well-below the BAAD thresholds. With implementation of MMs 4.1a and 4.1b, the Project would have a less than cumulatively considerable impact on emissions and air quality.

Under the No Project Alternative, no demolition or construction would occur and there would be no increase or decrease in air pollutant emissions or change in the potential for people in the project vicinity to be exposed to TACs. Thus, the No Project Alternative would result in no impacts to air quality and no mitigation measures would be needed. Impacts would be *reduced* compared to the Proposed Project.

Greenhouse Gas Emissions

As discussed in Section 4.2, the Proposed Project would result in three significant and unavoidable impacts related to GHG emissions because the Project would rely on the use of natural gas for space conditioning, which is necessary because R&D buildings require higher levels of system reliability to maintain the viability of science functions taking place within the laboratory setting (Appendix I). The Project would not comply with the BAAD guidance which provides that projects may be found to have less than significant GHG impacts only if they exclude any natural gas appliances and plumbing, thus the Project's inclusion of natural gas appliances and plumbing is considered to have a significant and unavoidable effect on the

environment. The Project would seek to reduce GHG emissions to the extent feasible and comply with GHG reduction plans, policies, and regulations by implementing the California Building Code CalGreen Non Residential Voluntary Measures Tier 2 to achieve a high degree of energy-efficiency; not resulting in any wasteful, inefficient, or unnecessary electrical usage; providing electric vehicle (EV) charging stations and parking spaces that are “EV Ready,” meaning conduit would be installed below the parking space surface to support future installation of additional EV charging stations; and by implementing TDM measures to reduce the Project-generated VMT. The Project would also be consistent with the City’s Climate Action Plan, the Metropolitan Transportation Commission and Association of Bay Area Governments (ABAG) Plan Bay Area 2050, and the CARB Scoping Plan. However, given the inclusion of natural gas appliances and plumbing, Section 4.2 finds that the Project would have a significant and unavoidable impact because it would conflict with BAAD guidance, which constitutes an adopted plan, policy, or regulation adopted to reduce GHG emissions, and that the Project would make a substantial contribution to a significant cumulative impact.

No demolition or construction would occur under the No Project Alternative, and the No Project Alternative would neither increase nor decrease emissions of GHGs. The existing buildings use natural gas and are not as energy efficient as the new buildings that would be constructed under the Proposed Project. Further, the existing buildings are not required to offset GHG emissions as would be required for the Project. Under the No Project Alternative, these existing buildings would remain onsite and no TDM plan would be implemented. Thus, the offsets and reductions in GHG emissions that the Proposed Project would achieve by reducing the per employee VMT associated with the Project site would not be realized under the No Project Alternative. However, the existing buildings are estimated to generate a maximum of 426 vehicle trips per day while the Proposed Project would generate 1,643 vehicle trips per day, thus the total GHG emissions from mobile sources would be less under the No Project Alternative. Additionally, because the use of existing natural gas appliances and plumbing onsite would continue and no offsets to existing GHG emissions would be provided, the No Project Alternative would not avoid the significant and unavoidable GHG impacts of the Proposed Project. Thus, the No Project Alternative would result in *similar or increased* GHG-related impacts as the Proposed Project.

Hazards and Hazardous Materials

As discussed in Section 4.3, the Proposed Project would result in less than significant impacts associated with accidental release of biohazardous material because it would be required to comply with existing laws and regulations and would implement standard industry practices to minimize the potential for such materials to be released. The existing buildings on the Project site include R&D uses, which are permitted by right in the Life Science district, and are required to comply with the existing laws and regulations to minimize the potential for such materials to be released. Impacts related to biohazardous materials would be *similar* to those of the Proposed Project.

Section 4.3 also found that the Proposed Project would result in potentially significant impacts associated with hazardous materials because demolition of the existing buildings onsite could release asbestos containing material (ACM) and/or lead based paints (LBP). The Proposed Project would implement MM 4.3a to ensure compliance with General Plan Program S1.J and the Environmental Site Assessment’s recommendation to prepare and implement a Site Mitigation Plan for the demolition phase by preparing a Hazardous Materials Health and Safety Plan that includes provisions for conducting surveys to identify ACM and LBP and ensuring compliance with applicable state and federal regulations for handling these materials during

demolition. Implementation of this MM would ensure that potential impacts of the Proposed Project due to demolition of buildings that may contain ACM and LBP would be reduced to a less-than-significant level. Section 4.3 also references the required implementation of MM 4.1b to reduce the impact associated with exposure to TAC at and adjacent to the Project site to a less-than-significant level by requiring the use of Tier 4 Final engines on construction equipment to reduce diesel particulate matter emissions. Project operations would not result in potential exposure of nearby sensitive receptors to hazardous emissions. With implementation of MMs 4.3a and 4.1b, the Project would not result in any new potential cumulative hazardous materials impacts.

No demolition or construction would occur under the No Project Alternative and there would be no changes in the existing land uses at the project site. Thus, there would be no potential for release of ACM, LBP or TAC. The No Project Alternative would result in no impacts to hazards and hazardous materials and no mitigation measures would be needed. Impacts related to hazardous materials would be *reduced* compared to the Proposed Project.

Noise

As discussed in Section 4.4, the Proposed Project would generate noise during project construction and operation. The City's Municipal Code exempts construction noise occurring between 8:00 a.m. to 6:00 p.m. from the City's general quantitative noise standards, except for the noise limit on individual pieces of powered equipment, for which the maximum permissible noise level is 85 A-weighted decibels (dBA) at 50 feet and the requirement that construction noise levels at sensitive receptors is no more than 10 dBA above the ambient noise level.

Section 4.4 evaluates both a worst-case scenario (shown in Table 4.4-8) of construction activity occurring at closest point to a sensitive receptor and an average scenario (shown in Table 4.4-9) where construction noise is determined based on the acoustic center of the construction area. Under the worst-case scenario, construction noise at the nearest noise-sensitive receptor, which is the Mid-Peninsula High School sports field is expected to range from 69 to 96 dBA L_{eq} during Phase 1 of construction, and from 69 to 84 dBA L_{eq} during Phase 2. Construction noise levels would range between 2 and 29 dBA greater than ambient noise levels. Noise levels at other sensitive receptors under the worst-case scenario would remain below 85 dBA but would range between 0 and 11 dBA greater than the existing ambient noise levels. Thus, the Project would result in significant noise impacts during construction under this scenario, which is expected to occur for approximately 10% of the overall construction schedule.

Under the average scenario, noise levels at all sensitive receptors would range between 47 and 71 dBA and the increase above ambient noise levels would range between 0 and 6 dBA. Therefore, daytime construction activities would result in less-than-significant temporary changes in noise levels under the average scenario.

During nighttime hours (10:00 p.m. to 7:00 a.m.), the Municipal Code defines a noise limit threshold of 50 dBA. Since Project construction noise levels are expected to range between 47 dBA and 96 dBA, if Project construction occurs in nighttime hours, the Project would have a potentially significant noise impact. The Project would implement MM 4.4a, which refines the requirements of ConnectMenlo EIR MM NOISE-1c, and MM 4.4b, to ensure that construction activities comply with the Municipal Code standards regarding construction noise. Specifically, MM 4.4a requires the use of various measures to limit construction related noise to minimize exposure of nearby properties to noise levels greater than 60 dBA L_{eq} between 7:00 a.m. and

10:00 p.m., and 50 dBA L_{eq} between 10:00 p.m. and 7:00 a.m., and MM 4.4b requires development and implementation of a construction noise control plan that demonstrates compliance with Section 8.06 of the Menlo Park Municipal Code, including limiting noise exposure for sensitive receptors and meeting the noise level restrictions for daytime and nighttime hours.

Noise associated with Project construction could combine with construction noise from other nearby projects to result in noise level increases of 10 dB over ambient at other nearby sensitive receptors during daytime exempt hours, as well as during non-exempt hours, which would constitute a significant cumulative impact. However, the Project's contribution to the cumulative construction noise impact would not be cumulatively considerable because implementation of MMs 4.4a and 4.4b would ensure that Project impacts in both the existing and cumulative conditions would be less than significant.

The Proposed Project would also result in a significant impact due to noise generated by the emergency electric power generator proposed for each of the two Project buildings. Table 4.4-12 shows that estimated noise levels at the closest receivers to the west and south would substantially exceed the allowable noise levels (i.e., 60 dBA during daytime hours [7:00 a.m. to 10:00 p.m.] and 50 dBA during nighttime hours [10:00 p.m. to 7:00 a.m.]) and may exceed the threshold for powered equipment used on a temporary, occasional, or infrequent basis of 85 dBA at 50 feet. MM 4.4c requires preparation of an emergency generator noise reduction plan that includes effective attenuation features and ConnectMenlo EIR MM NOISE-1b requires that noise from emergency generator testing comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. With implementation of these MMs, the Project would have less than significant noise impacts from emergency generator testing in both the existing and cumulative conditions.

Section 4.4 also demonstrates that the Project would cause less-than-significant increases in traffic noise levels in both the existing and cumulative conditions. As presented in Table 4.4-9, traffic noise level increases attributable to the Project under both existing (year 2027) and cumulative (year 2040) conditions would be no greater than 0.1 dBA CNEL, which is well below the level of change that can be detected by the human ear.

The Project could potentially create significant vibration during demolition of 985 O'Brien Drive and during demolition of the eastern half of 1320 Willow Road. However, MM 4.4d requires the applicant to develop a Construction Vibration Control Plan that would prevent vibration levels from exceeding a peak particle velocity of 0.2 inches per second. The Proposed Project is also not located in the vicinity of vibration generating sources; nor does the Proposed Project incorporate long-term operation sources of groundborne vibration. Thus, the Project impacts in both the existing and cumulative conditions would be less than significant.

Under the No Project Alternative, no demolition or construction would occur, there would be no increase or decrease in noise, noise created by construction activities, and/or vibration. Thus, the No Project Alternative would result in no impacts to noise and no mitigation measures would be needed. Impacts would be *less* than the Proposed Project.

Population and Housing

As discussed in Section 4.6, the Proposed Project is within the scope of development anticipated by ConnectMenlo and Plan Bay Area 2050, the Project would be consistent with previously contemplated and anticipated population, household, and employment growth within the city and greater Bay Area and therefore would not create substantial amounts of unplanned growth or a demand for housing that would exceed City and ABAG projections. The Project would not displace residents or housing and does not include development of any new residential units. The Project is expected to contribute a slight increase in local and regional housing demand through its direct, indirect, and induced job creation. The planned increases in housing supply within the City and region, including housing at various levels of affordability, are sufficient to accommodate the direct, indirect, and induced household growth attributed to the Project. The Project would have less than significant impacts associated with population and housing and the Project's contribution to population growth would not be cumulatively considerable.

Under the No Project Alternative, no construction would occur and there would be no increase in housing demand. Thus, the No Project Alternative would result in no impacts to population and housing. Impacts would be *less* than the Proposed Project.

Transportation

As discussed in Section 4.6, the Proposed Project would result in less than significant transportation impacts under both existing and cumulative conditions. The analysis in Table 4.6-3 demonstrates that the Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Based on project-specific modeling, the Project was estimated to generate 19.0 VMT per employee before implementation of the TDM program. The current regional average is 15.9 VMT per employee, which results in a VMT threshold of 13.6 VMT per employee. Thus, the Project was found to need to achieve a 28.4% reduction in VMT. The Project would implement a TDM program that is required to achieve a minimum 35% reduction and projected to achieve a 36% reduction in daily vehicle trips and associated VMT, and thus the Project would not exceed an applicable VMT threshold of significance.

The Proposed Project would not require changes to the offsite road network, would not cause vehicle queuing to exceed the available space, and would provide adequate sight distance at each of the vehicle access points to the Project site. Thus, the Project would not substantially increase transportation hazards due to a geometric design feature and would not result in inadequate emergency access to the Project site or adjacent parcels and properties within the study area. The Project is consistent with the land use and zoning designations assigned to the Project site and the proposed land uses would not introduce unusual vehicle types to the local circulation network; thus, the Project would not increase transportation hazards due to the introduction of incompatible land uses and associated transportation needs.

In the cumulative scenario, compliance with City requirements regarding use of TDM plans to reduce VMT is expected to reduce regional VMT over time and there would be no significant cumulative VMT impact to which the Project could contribute. Similarly, payment of Transportation Impact Fees (TIF) as required by the City's TIF program to provide for transit system, and pedestrian and bicycle facility improvements would ensure that cumulative impacts to these components of the transportation network remain less than

significant and potential conflicts with programs, plans, ordinances, and policies addressing the circulation system would be avoided.

Under the No Project Alternative, no construction would occur, and the No Project Alternative would neither increase nor decrease existing traffic volumes and VMT. Further, the No Project Alternative would not conflict with congestion management plans and would not change traffic patterns and/or emergency access. Thus, the No Project Alternative would result in no impacts to transportation relative to existing conditions. However, the No Project Alternative would not include implementation of a TDM plan and thus this Alternative would not contribute to VMT reductions under the cumulative scenario. Transportation impacts under the No Project Alternative would be *similar* to the Proposed Project under existing conditions and greater than the Proposed Project with respect to cumulative impacts.

Tribal Cultural Resources

Section 4.7 provides descriptions of the ethnographic and contemporary Native American setting of the area and the steps the City has taken to notify and consult with Native American tribes regarding the Proposed Project. Although there are no known cultural or tribal cultural resources or human remains within or adjacent to the Project site, there are known tribal cultural resources within the Willow Village project site, the southern boundary of which is located approximately 400 feet north of the Project site, and the Project region overall is considered to be archaeologically sensitive. Thus, there is a potential that presently unknown tribal cultural resources could be present below the ground surface, and these could be disturbed and/or destroyed during project construction. The Project would undertake mitigation designed to minimize or eliminate impacts to tribal cultural resources, including the City's Housing Element Subsequent EIR MMs CR-2b and CR-3 as well as Project-specific MMs CULT-A and CULT-B. These measures would ensure that any potential tribal cultural resources encountered during Project construction would be protected from further impacts until they have been evaluated by a qualified professional and a determination is made as to the treatment measures that can be implemented to avoid adverse effects to such resources prior to continuing construction activities in the vicinity of the resource.

Under the No Project Alternative, no construction would occur and there would be no increase in potential impacts to Tribal Cultural Resources. Thus, the No Project Alternative would result in *reduced* Tribal Cultural Resources impacts compared to the Proposed Project and no mitigation measures would be required.

7.4.2 Base Level Development Alternative

Air Quality

As summarized in Section 7.4.1, the Proposed Project was found to have potentially significant air quality impacts related to the release of fugitive dust/particulate matter and TAC emissions during project construction, both in terms of the Project-specific impacts and the Project's contribution to cumulative impacts. The Proposed Project would be required to implement MMs 4.1a and 4.1b to reduce these impacts to less-than-significant levels. The Project's impacts during operation would remain less than significant.

The Base Level Development Alternative would develop approximately 56% less building space than the Proposed Project. The decrease in the building intensity on the Project site would decrease air pollutant

emissions during construction and operation. However, construction would still involve potential release of fugitive dust/particulate matter and TACs, requiring implementation of MMS 4.1a and 4.1b.

The Base Level Development Alternative would be subject to the C/CAG CMP because it would meet the CMP definition of a large transit-proximate project since it would develop more than 50,000 square feet and the Project site is located within 3 miles of high-quality transit service. Thus, the Base Level Development Alternative would be required to implement a TDM program that achieves a minimum trip reduction of 35%, which is the same requirement as the Proposed Project must meet. During Project operation, the Base Level Development Alternative would be expected to result in a net increase of 295 new daily trips as shown in Table 7-2, which is presented in the Transportation discussion below, while the Proposed Project is estimated to result in a net increase 1,217 new daily trips (after applying 35% TDM reduction to both). This substantial reduction in the number of daily vehicle trips would also reduce the daily air pollutant emissions from mobile sources. Additionally, there would be reduced energy consumption, demands for water and wastewater conveyance and treatment, and volumes of solid waste generated. These factors would reduce the volume of daily air pollutant emissions associated with Project operation. The Base Level Development Alternative would lower levels of air pollutant emissions compared to the Proposed Project and therefore the air quality impacts would be *reduced*.

Greenhouse Gas Emissions

As summarized in Section 7.4.1, the Proposed Project would result in a significant and unavoidable impacts related to GHG emissions because the Project would rely on the use of natural gas for space conditioning, which is necessary because R&D buildings require higher levels of system reliability to maintain the viability of science functions taking place within the laboratory setting (Appendix I). Thus, the Project would generate GHG emissions that would adversely affect the environment because the Project would not comply with the BAAD guidance which provides that projects may be found to have less than significant GHG impacts only if they exclude the use of natural gas. The Project would implement several measures to minimize energy use, including natural gas; provide EV charging stations and EV Ready parking spaces; implement TDM measures to reduce the Project-generated VMT, and be consistent with the City's Climate Action Plan, Plan Bay Area 2050, and the CARB Scoping Plan. However, given the inclusion of natural gas appliances and plumbing, the Project would have a significant and unavoidable impact because it would conflict with BAAD guidance, which constitutes an adopted plan, policy, or regulation adopted to reduce GHG emissions, and the Project's inclusion of natural gas appliances and plumbing would make a substantial contribution to a significant cumulative impact.

The Base Level Development Alternative would develop approximately 56% less life sciences/R&D building space than the Proposed Project. To support the same type of land uses as in the Proposed Project, this Alternative would rely on the use of natural gas for space conditioning, thus this Alternative would not avoid the Project's significant and unavoidable impacts. The decrease in the building intensity on the Project site would decrease GHG emissions during construction and this alternative would also be required to purchase carbon offsets during operation. With the exception of including natural gas appliances and plumbing, this Alternative would have less-than-significant impacts related to GHG because it would implement energy efficiency measures, comply with BAAD standards, and retain consistency with applicable plans, policies, and regulations regarding reductions in GHG emissions. As noted in the Air Quality discussion, the Base Level Development Alternative would be expected to result in a substantial reduction in new daily traffic trips, which would reduce daily GHG emissions from mobile sources. Thus, the Base Level Development

Alternative would result in *reduced* GHG-related impacts compared to the Proposed Project but would also result in the same three significant and unavoidable GHG impacts as the Proposed Project.

Hazards and Hazardous Materials

As summarized in Section 7.4.1, the Proposed Project would result in less than significant impacts associated with accidental release of biohazardous material during Project operation. The Base Level Development Alternative would include R&D uses, which would also be required to comply with the existing laws and regulations to minimize the potential for such materials to be released. Impacts related to biohazardous materials would be *similar* to those of the Proposed Project,

Project construction would result in potentially significant impacts associated with hazardous materials due to the potential release of ACM and/or LBP during demolition of the existing buildings onsite and release of TACs associated with the use of construction equipment. Implementation of MMs 4.3a and 4.1b would reduce these impacts to less-than-significant levels at both the project-specific level and at the cumulative impact level. MM 4.3a requires preparation of a Hazardous Materials Health and Safety Plan that includes provisions for conducting surveys to identify ACM and LBP and ensuring compliance with applicable state and federal regulations for handling of these materials and MM 4.1b requires the use of Tier 4 Final engines on construction equipment to reduce diesel particulate matter emissions.

The Base Level Development Alternative would include demolition of existing structures and construction of new buildings within the Project site; however, construction activities would be less intense than under the Proposed Project. The potential to release hazardous materials and handle hazardous materials within proximity to sensitive receptors under this Alternative would be similar to that of the Proposed Project. Implementation of MM 4.3a and 4.1b would ensure that impacts would be reduced to a less-than-significant level. Thus, the Base Level Development Alternative would result in *similar* impacts associated with hazards and hazardous materials as the proposed project.

Noise

As summarized in Section 7.4.1, the Proposed Project would result in less than significant noise impacts during construction with implementation of MMs 4.4a and 4.4b, which require the use of various measures sufficient to ensure that construction related noise levels at nearby sensitive receptors does not exceed the City's Municipal Code standards. The Project would also implement MM 4.4c to ensure that noise impacts from testing of the emergency generators would remain less than significant and implement MM 4.4d to ensure that vibration impacts remain less than significant. The Project would result in less than significant increases in traffic noise levels without mitigation.

The Base Level Development Alternative would involve less construction than the Proposed Project, however noise levels during construction would remain similar to those identified in Section 4.4 and implementation of MMs 4.4a through 4.4d would still be necessary to ensure that impacts remain less than significant. This Alternative would generate fewer daily traffic trips during operation compared to the Proposed Project and thus would result in less traffic noise; however the Proposed Project would cause an increase in traffic noise of no greater than 0.1 dBA CNEL, which is well below the level of change that can be detected by the human ear. The Base Level Development Alternative would result in *similar* levels of noise impacts as the Proposed Project.

Population and Housing

As summarized in Section 7.4.1, the Proposed Project is within the scope of development anticipated by ConnectMenlo and Plan Bay Area 2050 and the planned increases in housing supply within the City and region, including housing at various levels of affordability, are sufficient to accommodate the direct, indirect, and induced household growth attributed to the Project. The Project would not displace residents or housing and does not include development of any new residential units. The Project would have less than significant impacts associated with population and housing under existing and cumulative conditions.

The Base Level Development Alternative would develop 56% less R&D building space than the Proposed Project and thus is expected to generate approximately 56% fewer onsite jobs than the Proposed Project. It would also result in similar reductions in indirect and induced job growth and associated housing demand, and thus impacts would be less than the Proposed Project.

Transportation

As summarized in Section 7.4.1, the Proposed Project would result in less than significant transportation impacts under both existing and cumulative conditions. The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The Project's TDM program is required to achieve a minimum 35% reduction and is projected to achieve a 36% reduction in daily vehicle trips and associated VMT, and thus the Project would not exceed an applicable VMT threshold of significance. The Project would not substantially increase transportation hazards due to a geometric design feature, would not result in inadequate emergency access to the Project site or adjacent parcels and properties within the study area, and would not increase transportation hazards due to the introduction of incompatible land uses and associated transportation needs.

In the cumulative scenario, compliance with City requirements regarding use of TDM plans to reduce VMT is expected to reduce regional VMT over time and there would be no significant cumulative VMT impact to which the Project could contribute. Similarly, payment of TIF's as required by the City's TIF program to provide for improvements to transit systems and pedestrian and bicycle facilities would ensure that cumulative impacts to these components of the transportation network remain less than significant and potential conflicts with programs, plans, ordinances, and policies addressing the circulation system would be avoided.

Under the Base Level Development Alternative, the Project site would be developed with approximately 127,963 fewer square feet of R&D building space than the Proposed Project and would generate 922 fewer new daily traffic trips than the Project, as shown in Table 7-2. As mentioned in the Air Quality discussion, the Base Level Development Alternative would develop more than 50,000 square feet of non-residential space and thus would be required to implement a TDM plan that achieves at least a 35% reduction in VMT in compliance with the C/CAG CMP. Thus, the Base Level Development Alternative would generate significantly less total daily VMT than the Proposed Project but would be expected to generate the same VMT per employee as the Proposed Project. This Alternative would also be subject to the City's TIF fees to contribute funding towards transit, pedestrian, and bicycle facility improvements. The Base Level Development Alternative would result in *similar* transportation impacts as the Proposed Project.

Table 7-2. Base Level Development Alternative Trip Generation

Land Use	ITE Code	Size/ Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates ¹									
Mini-Warehouse	151	per TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15
Research and Development Center	760	per TSF	11.08	0.84	0.19	1.03	0.16	0.82	0.98
Trip Generation of Existing Uses									
985 O'Brien Drive – Mini-Warehouse	151	10.022 TSF	14	1	0	1	1	1	2
985 O'Brien Drive – R&D	760	10.022 TSF	111	8	2	10	2	8	10
1001 O'Brien Drive – R&D	760	20.542 TSF	228	17	4	21	3	17	20
1320 Willow Road – Mini-Warehouse	151	50.045 TSF	73	3	2	5	4	4	8
Existing Uses Subtotal ²			426	29	8	37	10	30	40
Trip Generation of Base Level Development Alternative									
1005 O'Brien Drive – R&D	760	57.745 TSF	640	49	11	59	9	47	57
1320 Willow Road – R&D	760	42.330 TSF	469	36	8	44	7	35	41
Base Level Development Alternative Subtotal			1,109	85	19	103	16	82	98
TDM Plan: 35% Reduction ³			388	30	7	36	6	29	34
Base Level Development Alternative Total			721	55	12	67	10	53	64
Total Net Trip Generation (Alternative – Existing)			295	26	4	30	0	23	24
Proposed Project Total Net Trip Generation (Proposed – Existing)			1,217	96	19	115	13	92	105
Alternative Trip Reduction (Proposed Project Net Trips – Alternative Net Trips)			922	70	15	85	13	69	81

Source: ITE 2021**Notes:** TSF = thousand square feet

Some of the totals may not match exactly due to rounding.

¹ Trip rates from Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.² A portion of the existing uses may be currently vacant, however, for the purposes of this analysis, all uses were assumed to be fully operational.³ Consistent with the City of Menlo Park City Zoning Ordinance, and C/CAG requirements, a reduction was applied to account for the proposed TDM plan that the Alternative would be required to provide. The TDM plan for the Proposed Project specifies that a 36% reduction in VMT is possible using the C/CAG TDM Mitigation score sheet for large, transit

proximate, non-residential uses such as this Alternative. However, to provide a conservative analysis, a 35% reduction is utilized throughout the analysis, therefore, the TDM plan would be expected to achieve at least a 35% reduction of daily and peak hour vehicle trips.

Tribal Cultural Resources

As summarized in Section 7.4.1, although there are no known cultural or tribal cultural resources or human remains within or adjacent to the Project site, there are known tribal cultural resources near the Project site and the Project region overall is considered to be archaeologically sensitive. Thus, there is a potential that presently unknown tribal cultural resources could be present below the ground surface, and these could be disturbed and/or destroyed during project construction. The Project would undertake the City's Housing Element Subsequent EIR MMs CR-2b and CR-3 as well as Project-specific MMs CULT-A and CULT-B to ensure any potential tribal cultural resources encountered during Project construction would be protected from further impacts until they have been evaluated by a qualified professional and a determination is made as to the treatment measures that can be implemented to avoid adverse effects to such resources prior to continuance of construction activities in the vicinity of the resource.

Under the Base Level Development Alternative, the existing site structures would be demolished and replaced with new buildings. As a result, the potential for discovery of tribal cultural resources under the Base Level Development Alternative would be similar to the potential for discovery under the Proposed Project and this Alternative would be required to implement the same mitigation measures as are required for the Proposed Project. Thus, the Base Level Development Alternative would result in *similar* impacts to tribal cultural resources as the Proposed Project.

7.4.3 Midrange Development Alternative

Air Quality

As summarized in Section 7.4.1, the Proposed Project was found to have potentially significant air quality impacts related to the release of fugitive dust/particulate matter and TAC emissions during project construction, both in terms of the Project-specific impacts and the Project's contribution to cumulative impacts. The Proposed Project would be required to implement MMs 4.1a and 4.1b to reduce these impacts to less than significant levels.

The Midrange Development Alternative would develop approximately 28% less building space than the Proposed Project. The decrease in the building intensity on the Project site would decrease air pollutant emissions during construction and operation. However, construction would still involve potential release of fugitive dust/particulate matter and TACs, requiring implementation of MMs 4.1a and 4.1b.

During Project operation, the Midrange Development Alternative would be expected to generate less daily air pollutant emissions from mobile sources than the Proposed Project because it would generate fewer daily vehicle trips. This alternative would be subject to the C/CAG CMP requirement to implement a TDM plan that achieves a minimum 35% reduction in daily trips. As shown in Table 7-3, presented in the Transportation discussion below, the Midrange Development Alternative would be expected to result in 741 new daily trips compared to the existing land uses at the Project site while the Proposed Project is estimated to result in 1,217 new daily trips. Additionally, there would be reduced energy consumption, demands for

water and wastewater conveyance and treatment, and volumes of solid waste generated. These factors would reduce the volume of daily air pollutant emissions associated with Project operation. The Midrange Development Alternative would lower levels of air pollutant emissions compared to the Proposed Project and therefore the air quality impacts would be *reduced*.

Greenhouse Gas Emissions

As summarized in Section 7.4.1, the Proposed Project would result in three significant and unavoidable impacts related to GHG emissions because the Project would rely on the use of natural gas for space conditioning, which is necessary because R&D buildings require higher levels of system reliability to maintain the viability of science functions taking place within the laboratory setting (Appendix I). The Project would not comply with BAAD guidance which provides that projects may be found to have less than significant GHG impacts only if they exclude the use of natural gas. The Project would implement several measures to minimize energy use, including natural gas; provide EV charging stations and EV Ready parking spaces; implement TDM measures to reduce the Project-generated VMT, and be consistent with the City's Climate Action Plan, Plan Bay Area 2050, and the CARB Scoping Plan. However, given the inclusion of natural gas appliances and plumbing, the Project would have a significant and unavoidable impact because it would conflict with BAAD guidance which constitutes an adopted plan, policy, or regulation adopted to reduce GHG emissions, and the Project's inclusion of natural gas appliances and plumbing would make a substantial contribution to a significant cumulative impact.

The Midrange Development Alternative would have the same footprint as the Proposed Project but would only include four building floors and have 28% less total floor area than the Proposed Project. To support the same type of land uses as in the Proposed Project, this Alternative would rely on the use of natural gas for space conditioning, thus this Alternative would not avoid the Project's significant and unavoidable GHG impacts. The decrease in building intensity on the Project site would decrease emissions of GHGs during construction and operation. With the exception of the inclusion of natural gas appliances and plumbing, the Midrange Development Alternative would implement energy efficiency measures, comply with BAAD standards, and retain consistency with applicable plans, policies, and regulations regarding reductions in GHG emissions. As noted in the Air Quality discussion, the Midrange Development Alternative would be expected to result in a reduction in new daily traffic trips, which would reduce daily GHG emissions from mobile sources. Thus, the Midrange Development Alternative would result in *reduced* GHG-related impacts compared to the Proposed Project but would also result in the same three significant and unavoidable GHG impacts.

Hazards and Hazardous Materials

As summarized in Section 7.4.1, the Proposed Project would result in less than significant impacts associated with accidental release of biohazardous material during Project operation. The Midrange Development Alternative would include R&D uses, which would also be required to comply with the existing laws and regulations to minimize the potential for such materials to be released. Impacts related to biohazardous materials would be *similar* to those of the Proposed Project.

Project construction would result in potentially significant impacts associated with hazardous materials due to the potential release of ACM and/or LBP during demolition of the existing buildings onsite and release of TACs associated with the use of construction equipment. Implementation of MMs 4.3a and 4.1b would reduce these

impacts to less-than-significant levels under both existing and cumulative conditions. MM 4.3a requires preparation of a Hazardous Materials Health and Safety Plan that includes provisions for conducting surveys to identify ACM and LBP and ensuring compliance with applicable state and federal regulations for handling of these materials and MM 4.1b requires the use of Tier 4 Final engines on construction equipment to reduce diesel particulate matter emissions.

The Midrange Alternative would include demolition of existing structures and construction of new buildings within the Project site; however, construction activities would be less intense than under the Proposed Project. The potential to release hazardous materials and handle hazardous materials within proximity to sensitive receptors under this Alternative would be similar to the Proposed Project but with a reduced total exposure potential due to the reduced construction time. Implementation of MM 4.3a and 4.1b would ensure that any impacts would be reduced to a less-than-significant level. Thus, the Midrange Development Alternative would result in *similar* impacts associated with hazards and hazardous materials as those of the Proposed Project.

Noise

As summarized in Section 7.4.1, the Proposed Project would result in less than significant noise impacts during construction with implementation of MMs 4.4a and 4.4b, which require the use of various measures sufficient to ensure that construction related noise levels at nearby sensitive receptors does not exceed the City's Municipal Code standards. The Project would also implement MM 4.4c to ensure that noise impacts from testing of the emergency generators would remain less than significant and implement MM 4.4d to ensure that vibration impacts remain less than significant. The Project would result in less than significant increases in traffic noise levels without mitigation.

The Midrange Development Alternative would involve less construction than the Proposed Project, however noise levels during construction would remain similar to those under the Proposed Project and implementation of MMs 4.4a through 4.4d would be necessary to ensure that impacts remain less than significant. This Alternative would generate fewer daily traffic trips during operation compared to the Proposed Project and thus would result in less traffic noise, however the Proposed Project would cause an increase in traffic noise of no greater than 0.1 dBA CNEL, which is well below the level of change that can be detected by the human ear, thus this Alternative would not result in a substantial change in traffic noise levels compared to the Proposed Project. The Midrange Development Alternative would result in *similar* noise impacts as the Proposed Project.

Population and Housing

As summarized in Section 7.4.1, the Proposed Project is within the scope of development anticipated by ConnectMenlo and Plan Bay Area 2050 and the planned increases in housing supply within the City and region, including housing at various levels of affordability, are sufficient to accommodate the direct, indirect, and induced household growth attributed to the Project. The Project would not displace residents or housing and does not include development of any new residential units. The Project would have less than significant impacts associated with population and housing under existing and cumulative conditions.

The Midrange Development Alternative would develop 28% less R&D building space than the Proposed Project and thus is expected to generate approximately 28% fewer onsite jobs than the Proposed Project.

It would also result in similar reductions in indirect and induced job and housing demand, and thus impacts would be *less* than the Proposed Project.

Transportation

As summarized in Section 7.4.1, the Proposed Project would result in less than significant transportation impacts under both existing and cumulative conditions. The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. With implementation of the Project's TDM program, the Project would not exceed an applicable VMT threshold of significance. The Project would not increase transportation hazards or result in inadequate emergency access.

In the cumulative scenario, compliance with City requirements regarding use of TDM plans to reduce VMT is expected to reduce regional VMT over time and there would be no significant cumulative VMT impact to which the Project could contribute. Similarly, payment of TIF's as required by the City's TIF program to provide for improvements to transit systems and pedestrian and bicycle facilities would ensure that cumulative impacts to these components of the transportation network remain less than significant and potential conflicts with programs, plans, ordinances, and policies addressing the circulation system would be avoided.

Under the Midrange Development Alternative, the Project site would be developed with approximately 64,048 fewer square feet of R&D building space than the Proposed Project and would generate 476 fewer new daily traffic trips than the Project, as shown in Table 7-3. This Alternative would develop more than 50,000 square feet of non-residential space and thus would be required to implement a TDM plan that achieves at least a 35% reduction in VMT in compliance with the C/CAG CMP. Thus, the Midrange Development Alternative would generate less total daily VMT than the Proposed Project but would be expected to generate the same VMT per employee as the Proposed Project. This Alternative would also be subject to the City's TIF fees to contribute funding towards transit, pedestrian, and bicycle facility improvements. The Midrange Development Alternative would result in *similar* transportation impacts as the Proposed Project.

Table 7-3. Midrange Development Alternative Trip Generation

Land Use	ITE Code	Size/ Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates ¹									
Mini-Warehouse	151	per TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15
Research and Development Center	760	per TSF	11.08	0.84	0.19	1.03	0.16	0.82	0.98
Trip Generation of Existing Uses									
985 O'Brien Drive – Mini-Warehouse	151	10.022 TSF	14	1	0	1	1	1	2

Table 7-3. Midrange Development Alternative Trip Generation

Land Use	ITE Code	Size/ Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
985 O'Brien Drive – R&D	760	10.022 TSF	111	8	2	10	2	8	10
1001 O'Brien Drive – R&D	760	20.542 TSF	228	17	4	21	3	17	20
1320 Willow Road – Mini-Warehouse	151	50.045 TSF	73	3	2	5	4	4	8
<i>Existing Uses Subtotal²</i>			426	29	8	37	10	30	40
Trip Generation of Midrange Development Alternative									
1005 O'Brien Drive – R&D	760	99.705 TSF	1,105	84	19	103	16	82	98
1320 Willow Road – R&D	760	62.245 TSF	690	52	12	64	10	51	61
<i>Midrange Development Alternative Subtotal</i>			1,795	136	31	167	26	133	159
<i>TDM Plan: 35% Reduction³</i>			628	48	11	58	9	46	56
<i>Midrange Development Alternative Total</i>			1,167	88	20	108	17	86	103
Total Net Trip Generation (Alternative – Existing)			741	59	12	71	7	56	63
Proposed Project Total Net Trip Generation (Proposed – Existing)			1,217	96	19	115	13	92	105
Alternative Trip Reduction (Proposed Project Net Trips – Alternative Net Trips)			476	37	7	45	6	36	42

Source: ITE 2021

Notes: TSF = thousand square feet

Some of the totals may not match exactly due to rounding.

¹ Trip rates from Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.

² A portion of the existing uses may be currently vacant, however, for the purposes of this analysis, all uses were assumed to be fully operational.

³ Consistent with the City of Menlo Park City Zoning Ordinance, and C/CAG requirements, a reduction was applied to account for the proposed TDM plan that the Alternative would be required to provide. The TDM plan for the Proposed Project specifies that a 36% reduction in VMT is possible using the C/CAG TDM Mitigation score sheet for large, transit proximate, non-residential uses such as this Alternative. However, to provide a conservative analysis, a 35% reduction is utilized throughout the analysis, therefore, the TDM plan would be expected to achieve at least a 35% reduction of daily and peak hour vehicle trips.

Tribal Cultural Resources

As summarized in Section 7.4.1, although there are no known cultural or tribal cultural resources or human remains within or adjacent to the Project site, there are known tribal cultural resources near the Project site and the Project region overall is considered to be archaeologically sensitive. Thus, there is a potential that presently unknown tribal cultural resources could be present below the ground surface, and these could be disturbed and/or destroyed during project construction. The Project would undertake the City's Housing

Element Subsequent EIR MMs CR-2b and CR-3 as well as Project-specific MMs CULT-A and CULT-B to ensure any potential tribal cultural resources encountered during Project construction would be protected from further impacts until they have been evaluated by a qualified professional and a determination is made as to the treatment measures that can be implemented to avoid adverse effects to such resources prior to continuance of construction activities in the vicinity of the resource.

Under the Midrange Development Alternative, the existing site structures would be demolished and replaced with new buildings. As a result, the potential for discovery of tribal cultural resources under the Midrange Alternative would be similar to the potential for discovery under the Proposed Project and this Alternative would be required to implement the same mitigation measures as are required for the Proposed Project. Thus, the Midrange Development Alternative would result in *similar* impacts to tribal cultural resources as the Proposed Project.

7.5 Environmentally Superior Alternative

As indicated in Table 7-4, the No Project Alternative would result in the least environmental impacts and would be the environmentally superior alternative because it would reduce most of the significant and potentially significant impacts associated with the Proposed Project. However, the No Project Alternative would continue the use of natural gas at the Project site and thus would not eliminate the Project's Significant and Unavoidable GHG impacts.

Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. In this case, both the Base Level Development Alternative and the Midrange Development Alternative would slightly reduce the potential for impacts in most of the resource areas evaluated, would not increase the potential for any impact, and would not eliminate the Project's Significant and Unavoidable impacts. The environmentally superior alternative is the Base Level Development Alternative because it would provide a greater reduction in significant and potentially significant impacts than the Midrange Development Alternative could accomplish.

Table 7-4. Project Alternatives Impacts Summary

Impact	Proposed Project Impacts	No Project Alternative	Base Level Development Alternative	Midrange Development Alternative
Air Quality				
4.1-1: Would the Project 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?	Less than Significant with Mitigation	Reduced, Less than Significant, no mitigation required	Reduced, Less than Significant with Mitigation	Reduced, Less than Significant with Mitigation

Table 7-4. Project Alternatives Impacts Summary

Impact	Proposed Project Impacts	No Project Alternative	Base Level Development Alternative	Midrange Development Alternative
4.1-2: Would the Project expose sensitive receptors to substantial pollutant concentrations	Less than Significant with Mitigation	Reduced, Less than Significant, no mitigation required	Reduced, Less than Significant with Mitigation	Reduced, Less than Significant with Mitigation
4.1-3: Would the Project result in cumulatively considerable air quality impacts	Less than Significant with Mitigation	Reduced, Less than Significant, no mitigation required	Reduced, Less than Significant with Mitigation	Reduced, Less than Significant with Mitigation
Greenhouse Gas Emissions				
4.2-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Significant and Unavoidable, no feasible mitigation	Similar or Increased, Significant and Unavoidable, no feasible mitigation	Reduced, Significant and Unavoidable, no feasible mitigation	Reduced, Significant and Unavoidable, no feasible mitigation
4.2-2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Significant and Unavoidable, no feasible mitigation	Similar or Increased, Significant and Unavoidable, no feasible mitigation	Reduced, Significant and Unavoidable, no feasible mitigation	Reduced, Significant and Unavoidable, no feasible mitigation
4.2-3: Would the project result in cumulatively considerable impacts with regard to greenhouse gas emissions?	Significant and Unavoidable, no feasible mitigation	Similar or Increased, Significant and Unavoidable, no feasible mitigation	Reduced, Significant and Unavoidable, no feasible mitigation	Reduced, Significant and Unavoidable, no feasible mitigation
Hazards and Hazardous Materials				
4.3-1: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant, no mitigation required	Reduced, Less than Significant, no mitigation required	Similar, Less than Significant, no mitigation required	Similar, Less than Significant, no mitigation required
4.3-2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less than Significant with Mitigation	Reduced, no mitigation required	Similar, Less than Significant with Mitigation	Similar, Less than Significant with Mitigation

Table 7-4. Project Alternatives Impacts Summary

Impact	Proposed Project Impacts	No Project Alternative	Base Level Development Alternative	Midrange Development Alternative
4.3-3: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	Less than Significant with Mitigation	Reduced, no mitigation required	Similar, Less than Significant with Mitigation	Similar, Less than Significant with Mitigation
4.3-4: Would the Project result in cumulative impacts related to hazards and hazardous materials or emergency response and evacuation?	Less than Significant with Mitigation	Reduced, no mitigation required	Similar, Less than Significant with Mitigation	Similar, Less than Significant with Mitigation
Noise				
4.4-1: Would the Project result in generation of 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?	Less than Significant with Mitigation	Reduced, no mitigation required	Similar, Less than Significant with Mitigation	Similar, Less than Significant with Mitigation
4.4-2: Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant with Mitigation	Reduced, no mitigation required	Similar, Less than Significant with Mitigation	Similar, Less than Significant with Mitigation
4.4-3: Would the Project result in cumulatively considerable noise impacts?	Less than Significant with Mitigation	Reduced, no mitigation required	Similar, Less than Significant with Mitigation	Similar, Less than Significant with Mitigation
Population and Housing				
4.5-1: Would the Project induce substantial unplanned population growth in an area, either directly or indirectly?	Less than Significant, no mitigation required	Reduced, no mitigation required	Reduced, Less than Significant, no mitigation required	Reduced, Less than Significant, no mitigation required
4.5-2: Would the Project displace substantial numbers of existing people or housing, necessitating	No Impact	Similar, No Impact	Similar, No Impact	Similar, No Impact

Table 7-4. Project Alternatives Impacts Summary

Impact	Proposed Project Impacts	No Project Alternative	Base Level Development Alternative	Midrange Development Alternative
the construction of replacement housing elsewhere?				
4.5-3: Would the Project result in a cumulative population, employment, and housing impact?	Less than Significant, no mitigation required	Reduced, no mitigation required	Reduced, Less than Significant, no mitigation required	Reduced, Less than Significant, no mitigation required
Transportation				
Impact 4.6-1: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities	Less than Significant, no mitigation required	Similar, no mitigation required	Similar, no mitigation required	Similar, no mitigation required
Impact 4.6-2: Would the Project exceed an applicable VMT threshold of significance?	Less than Significant, no mitigation required	Similar under existing conditions, increased under cumulative conditions no mitigation required	Similar, no mitigation required	Similar, no mitigation required
Impact 4.6-3: Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment	Less than Significant, no mitigation required	Reduced, No Impact, no mitigation required	Similar, no mitigation required	Similar, no mitigation required
4.6-4: Would the Project result in inadequate emergency access	Less than Significant, no mitigation required	Reduced, No Impact, no mitigation required	Similar, no mitigation required	Similar, no mitigation required
4.6-5: Would the Project result in cumulatively considerable transportation impacts?	Less than Significant, no mitigation required	Similar, no mitigation required	Similar, no mitigation required	Similar, no mitigation required
Tribal Cultural Resources				
4.7-1: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined	Less than Significant with Mitigation	Reduced, No Impact	Similar, Less Than Significant with Mitigation	Similar, Less Than Significant with Mitigation

Table 7-4. Project Alternatives Impacts Summary

Impact	Proposed Project Impacts	No Project Alternative	Base Level Development Alternative	Midrange Development Alternative
<p>in PRC 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:</p> <p>(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,</p> <p>(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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe</p>				
4.7-2: Would the project make a cumulatively considerable contribution to a significant cumulative impact related to tribal cultural resources	Less than Significant with Mitigation	Reduced, No Impact	Similar, Less Than Significant with Mitigation	Similar, Less Than Significant with Mitigation

7.6 References Cited

BAAQMD (Bay Area Air Quality Management District). 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans*. February 2022. <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/final-ceqa-thresholds-report-for-climate-impacts-02092022-alt-pdf.pdf?la=en&rev=2fa4a375066846eea15ab2fa124efc6a>.

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