Draft Environmental Impact Report
1125 O'Brien Drive Project

Prepared by:
ICF

Prepared for:
City of Menlo Park

March 2023

DRAFT ENVIRONMENTAL IMPACT REPORT

1125 O'BRIEN DRIVE PROJECT

PREPARED FOR:

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Acronyms and Abbreviations

2017 Scoping Plan	2017 Climate Change Scoping Plan
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADT	average daily traffic
APN	assessor's parcel number
ATCM	airborne toxic control measures
BAAQMD	Bay Area Air Quality Management District
BAAQMD Justification Report	*Justification Report CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*
BART	Bay Area Rapid Transit
Bay	San Francisco Bay
Bay Area	San Francisco Bay Area
BMPs	best management practices
BRA	Biological Resources Assessment
C	Celsius
C/CAG	City/County Association of Governments of San Mateo County
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	conditional development permit
CEC	California Energy Commission

CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CH_4	methane
City	City of Menlo Park
CLUP	Comprehensive Land Use Plan
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
ConnectMenlo	General Plan and M-2 Area Zoning Update
CRPR	California Rare Plant Rank
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
du	dwelling units
EIR	environmental impact report
EMFAC	EMission FACtor
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ESA	Endangered Species Act
EV	electric vehicle
EVSE	Electric-vehicle supply equipment
FAR	floor area ratio
FAR	floor area ratio
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	geographic information system
gsf	gross square feet
GVWR	gross vehicle weight rating
GWP	global warming potential
HFCs	hydrofluorocarbons

HI	hazard index
HRA	health risk assessment
HVAC	heating, ventilation, and air-conditioning
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
kW	kilowatt
L_{dn}	day-night level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent sound level
L_{eq}[1h]	1-hour equivalent sound level
LID	low-impact development
L_{max}	maximum sound level
L_{min}	minimum sound level
LOS	level of service
LS	Life Sciences
LS-B	Life Sciences-Bonus
LSAA	Lake and Streambed Alteration Agreement
LTS	less than significant
LTS/M	less than significant with mitigation
M-2	General Industrial
MBTA	Migratory Bird Treaty Act
MFR	multi-family residential
MMRP	mitigation monitoring and reporting program
MPFPD	Menlo Park Fire Protection District
mph	miles per hour
MPPD	Menlo Park Police Department
MRZ	Mineral Resource Zones
MTC	Metropolitan Transportation Commission
$MTCO_2e$/year	metric tons of carbon dioxide equivalent per year
MUTCD	Manual on Uniform Traffic Control Devices
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NHTSA	National Highway Traffic Safety Administration
NI	no impact
NMFS	National Marine Fisheries Service

NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NSR	New Source Review
O	Office
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
Pb	lead
PCE	Peninsula Clean Energy
PG&E	Pacific Gas and Electric
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
$PM_{2.5}$	particulate matter no more than 2.5 microns in diameter
pph	persons per household
PPV	peak particle velocity
Project Sponsor	O'Brien Drive Portfolio, LLC
Proposed Project	1125 O'Brien Drive Project
R-MU	Residential Mixed-Use
R-MU-B	Residential-Mixed Use-Bonus
R&D	research and development
Refuge	Don Edwards San Francisco Bay National Wildlife Refuge
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel Efficient
SamTrans	San Mateo County Transit District
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	sustainable communities strategy
sf	square foot
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLCP	short-lived climate pollutant
SLCP Reduction	Short-Lived Climate Pollutant Reduction Strategy

Strategy	
SO_2	sulfur dioxide
SOG	slab on grade
SO_X	sulfur oxides
SR	State Route
State	State of California
STC	sound transmission class
SU	significant and unavoidable
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminants
TAZ	Transportation Analysis Zone
TDM	transportation demand management
TIA	transportation impact analysis
TIF	transportation impact fee
TMA	Transportation Management Association
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VdB	vibration decibel level
VMT	vehicle miles traveled
WBSD	West Bay Sanitary District
WRA	WRA, Inc.
ZEV	zero-emission-vehicle

ES.1 Project Overview

O'Brien Drive Portfolio, LLC (Project Sponsor), is proposing to redevelop four separate legal lots, addressed as 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court, as well as an adjacent lot with a drainage ditch. The O'Brien and drainage ditch parcels would be merged into one lot referenced as Parcel 1 or the Building Lot) with a building. Surface parking for the building would be provided on the adjacent lot at 1 Casey Court (Parcel 2 or Accessory Parking Lot). Parcel 1, which is 2.44 acres and part of the Menlo Park Labs campus, is currently developed with three single-story buildings, totaling approximately 38,911 gross square feet (gsf). Parcel 2 is 1.68 acres and currently developed with an approximately 20,955 gsf, single-story building.

In total, the Project site covers 4.12 acres. Figure 1-1 shows the location of the Project site. The Proposed Project would demolish existing buildings and construct an approximately 131,825 gsf, five-story life sciences building. In addition, the Proposed Project would provide a total of 229 parking stalls, with approximately 82 stalls in a surface accessory parking lot west of the proposed building and an additional 147 parking stalls on Parcel 2. Landscaping and open space (both public and private) would also be included as part of the Proposed Project.

An approximately 131,825 gsf life sciences building would accommodate an estimated 328 employees. The proposed building would be designed with the flexibility to accommodate a single life sciences tenant or meet the needs of multiple tenants. The building would be oriented in an east–west direction, with the southern frontage along O'Brien Drive being the front façade. The entry lobby, with an open-to-the-public 2,700 gsf "grab and go" café, would be on the ground floor, at the center of the south elevation. In addition, the building would include a 500-square-foot (sf) chemical storage building on the north side adjacent to the truck dock/loading area. The proposed building would have five levels.

The Proposed Project would include a Transportation Demand Management (TDM) program to promote alternatives to private automotive travel and reduce the number of single-occupancy vehicle trips as well as the resulting traffic and greenhouse gas emissions.

As stated above, the Project Sponsor would provide parking onsite in the form of surface parking. The parking would be available to new tenants and visitors of the proposed building. In total, 229 new parking spaces would be provided at the Project site, including ten Americans with Disabilities Act– (ADA-) compliant spaces on Parcel 1 adjacent to the proposed building. Several of these designated spaces are designed to support electric and clean air vehicles.

The Project site is zoned Life Sciences-Bonus (LS-B), which has base- and bonus-level development regulations. The base-level development for the LS-B zone permits a maximum and average height of 35 feet for buildings and a maximum floor area ratio (FAR) of 55 percent, with an additional FAR of 10 percent for commercial uses at the base level. At the bonus level, in exchange for community amenities, the LS-B zone allows a maximum height of 110 feet and an average height of 67.5 feet as well as a FAR of up to 125 percent, with an additional 10 percent for commercial uses.

The Proposed Project would construct an approximately 101-foot-tall building, resulting in the average building height on the site of approximately 60.6 feet. The Proposed Project would result in the site having a total floor area of approximately 131,825 gsf and a FAR of 74 percent. Therefore, the Project Sponsor would be required to provide community amenities in exchange for bonus-level development, which would be provided consistent with the requirements of Section 16.44.070 of the City Zoning Ordinance.

ES.2 Regulatory Context and Background

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 M-2 Area, now referred to as the Bayfront Area, was approved on November 29, 2016. It serves as the City's comprehensive and long-range guide to land use and infrastructure development in the Bayfront Area. ConnectMenlo's Land Use Element identifies an allowable increase in net new development potential in the Bayfront Area of up to 2.3 million gsf for non-residential uses, along with up to 4,500 residential units and up to 400 hotel rooms.

This Draft EIR and the Initial Study (see Appendix 1-1) were prepared in accordance with the terms of the settlement agreement between the cities of Menlo Park and East Palo Alto, which allows simplification in accordance with CEQA Guidelines Section 15168 for all topic areas except housing and transportation. The analysis provided in this Draft EIR and the Initial Study tier from the ConnectMenlo EIR, as appropriate and as further described in each topical section. Refer to Section 1.3, *CEQA Process*, in Chapter 1, *Introduction*, for a complete description of the relevant Project background, including the ConnectMenlo EIR and settlement agreement.

ES.3 Areas of Controversy

CEQA Guidelines Section 15123 specifies that the Draft EIR summary must identify "areas of controversy" known to the Lead Agency, including issues raised by agencies and the public.

The NOP was released for the Proposed Project on July 30, 2021, for a 30-day public review period. A public scoping meeting was held on August 9, 2021, 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 1-2 of this Draft EIR. Copies of the NOP comment letters and the comments recorded at the Planning Commission hearing are also included in Appendix 1-2 of this Draft EIR.

Potential areas of controversy that were identified by the comments include those listed below.

- **Transportation**: Analysis of traffic operations, trip generation, trip distribution, trip assignments, trip reductions, TDM plan, transportation impact fees, study intersections, impacts on surrounding jurisdictions, bicycle and pedestrian routes, and mitigation measures to reduce potential impacts.
- **Hazards and Hazardous Materials:** Analysis of proposed research-and-development uses and chemical storage on surrounding uses, including the SFPUC right-of-way.
- **Hydrology and Water Quality:** Analysis of potential drainage impacts on surrounding properties, including the SFPUC right-of-way.
- **Tribal Cultural Resources:** Analysis of potential impacts on tribal cultural resources and tribal consultation requirements.
- **Utilities and Service Systems**: Analysis of potential impacts on the SFPUC right-of-way and water supply.
- **Alternatives**: Analysis of Proposed Project alternatives and potential alternatives to be considered.

Comments related to transportation are considered and addressed in Section 3.1, *Transportation*, of this EIR. Similarly, impacts related to tribal cultural resources are addressed in Section 3.6, *Cultural and Tribal Cultural Resources,* of this EIR. Comments related to the hazards and hazardous materials as well as drainage impacts on the SFPUC right-of-way are addressed in Section IX, *Hazards and Hazardous Materials*, and Section X, *Hydrology and Water Quality*, of the Initial Study (Appendix 1-1). Comments related to the impacts of the Proposed Project on the water supply and the SFPUC right-of-way are addressed in Section XIX, *Utilities and Service Systems*, of the Initial Study. Alternatives suggested by the commenters are considered in Chapter 5, *Alternatives*, of this EIR.

ES.4 Impacts and Mitigation Measures

Table ES-1 presents a summary of the impacts of the Proposed Project, proposed mitigation and improvement measures, and each impact's level of significance after mitigation. The environmental impacts are identified and classified as "Significant," "Potentially Significant," "Less than Significant," or "No Impact." According to CEQA Guidelines Section 15382, a significant impact is "… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" CEQA Guidelines Section 15126.4(a)(1) also states that an EIR "… shall describe feasible mitigation measures which could minimize significant adverse impacts…" Where feasible mitigation measures have been identified for significant impacts, the mitigation measures are also noted in Table ES-1.

Findings of the Initial Study

The Initial Study for the Proposed Project is included in Appendix 1-1 to this EIR. The Initial Study identified: (1) no impacts, (2) less-than-significant impacts, or (3) less-than-significant impacts with implementation of mitigation measures identified in the ConnectMenlo Final EIR related to the following environmental issues:

- Aesthetics
- Agricultural and forestry resources
- Air quality (conflict with plans and odors)
- Biological resources (riparian habitat or other sensitive natural communities, wetlands, conflicts with local policies, or conflicts with habitat conservation plans and natural community conservation plans)
- Cultural resources (historical resources and the inadvertent discovery of human remains)
- Energy
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Mineral resources
- Noise (airport land use plans)
- Population and housing (displacement of people or housing)
- Public services
- Recreation
- Utilities and service systems

The Proposed Project would be required to comply with all applicable mitigation measures identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP), which is an enforceable MMRP prepared for the ConnectMenlo Final EIR and a requirement of any proposed development project in the

city. Applicable mitigation measures identified in the Initial Study are provided in Table ES-1 at the end of this chapter. For a complete description of potential impacts identified in the Initial Study, please refer to the specific discussion within each topic section of the Initial Study (Appendix 1-1). Chapter 4, *Other CEQA Considerations*, also includes a summary of the findings for each topic not discussed in the EIR.

Waterline Upgrades

The City has identified the need to upgrade the existing waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property to provide sufficient fire flows for new development in this area. The existing water mains need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity.

The 1350 Adams Court EIR[1] included the waterline upgrades as part of that project and analyzed their construction impacts. However, it is possible that the Proposed Project may develop before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project. (Depending on technical requirements, it may be possible for the Proposed Project to proceed with just the O'Brien Drive waterline upgrade, leaving the other portions for the 1350 Adams Court project or another development in the area requiring those lines.) A detailed explanation of the waterline construction is included in Chapter 2, *Project Description*.

Potentially Significant Impacts

Under CEQA, a significant impact on the environment is defined as "… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." As discussed in more detail in Chapter 3 of this EIR, impacts in the following areas would be potentially significant without implementation of mitigation measures and are evaluated in this EIR.

- Transportation (vehicle miles traveled per capita)
- Air Quality (criteria pollutants and sensitive receptors)
- Greenhouse Gas Emissions (generation of greenhouse gas emissions during construction and operation)
- Noise (substantial temporary or permanent increase in noise and vibration during construction and noise during project operation)
- Cultural and Tribal Cultural Resources (archaeological resources and tribal cultural resources)
- Biological Resources (special-status species and wildlife movement)

Impacts related to population and housing would be less than significant, and no mitigation measures would be required.

[1] City of Menlo Park. 2022. 1350 Adams Court Final EIR, Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

Significant and Unavoidable Impacts

The Proposed Project would result in the following significant and unavoidable impacts, despite imposition of feasible mitigation measures, as discussed in Chapter 3 of this EIR.

- **Impact GHG-2: Generation of GHG Emissions during Operation and Conflicts with Applicable Plans and Policies.** The level of GHG emissions associated with operation of the Proposed Project would have a significant impact on the environment and would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs that specifically relate to the use of natural gas.
- **Impact C-GHG-1: Cumulative GHG Impacts.** The Project would generate GHG emissions that would have a significant cumulative impact on the environment
- **Impact NOI-1a: Construction Noise.** Construction of the Proposed Project would expose persons to and/or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- **Impact NOI-2: Vibration Effects during Construction.** The Proposed Project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.

Cumulative Impacts

CEQA defines cumulative impacts as "two or more individual effects, which when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines requires an EIR to evaluate potential environmental impacts that are individually limited but cumulatively significant. Such impacts can result from the Proposed Project when combined with past, present, or reasonably foreseeable future projects. As described in Chapter 3 of this EIR, the cumulative impacts analysis in this EIR is based on information provided by the City on currently planned, approved, or proposed projects as well as regional projections for the area. All identified impacts of the Proposed Project would be individually limited and would not be cumulatively considerable, other than Impact C-GHG-1 because the operation of the Proposed Project would generate GHG emissions that would have a significant cumulative impact on the environment.

ES.5 Project Alternatives

In accordance with CEQA and the CEQA Guidelines, specifically Section 15126.6, an EIR must describe a reasonable range of alternatives to a project, or the location of a project, that could attain most of the project's basic objectives while avoiding or substantially lessening any of the significantly adverse environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effects cannot be ascertained and whose implementation is remote and speculative."

Three alternatives to the Proposed Project are discussed and analyzed in Chapter 5, *Alternatives*, of this EIR.

- **No Project Alternative:** The existing uses and site conditions will not change. Evaluation of this alternative is required by CEQA.

- **Base Level Alternative**: This alternative involves new development consistent with the base level of development allowed by the City's Zoning Ordinance (up to 55% FAR) on both Parcel 1 and Parcel 2 and was selected based on its potential to reduce transportation and greenhouse gas emission impacts.
- **Reduced Base Level Alternative:** This alternative involves new development consistent with the base level of development allowed by the City's Zoning Ordinance (up to 55% FAR), but only on Parcel 1. It was selected based on its potential to reduce or avoid the construction noise and vibration impacts of the Proposed Project and would involve less overall construction and less overall GHG impacts based on its potential to reduce transportation impacts. Parcel 2 would remain as-is with its existing uses and site condition and would be available in the future for redevelopment consistent with the General Plan and Zoning Ordinance."

Each alternative is compared to the Proposed Project and discussed in terms of its various mitigating or adverse effects on the environment. Analysis of the alternatives focuses on those topics for which significant adverse impacts would result from the Proposed Project and policy considerations designed to provide information regarding mixed-use and base-level development. The Reduced Base Level Alternative is considered to be the environmentally superior alternative. However, this alternative would meet some of the basic Project objectives to a lesser degree than the Proposed Project, such as generating less revenue for the City's tax base and not providing community amenities for the surrounding neighborhood.

ES.6 Draft EIR Conclusions

In accordance with CEQA Guidelines Section 15123(b)(3), this summary section must identify issues to be resolved, including a discussion of whether or how to mitigate the significant effects and the choice among alternatives. Chapter 3 of the Draft EIR, *Environmental Impact Analysis*, presents mitigation measures to reduce or avoid significant impacts identified for the Proposed Project. A Mitigation Monitoring and Reporting Program (MMRP) will be prepared to define the timing for implementation of the measures, the parties who will be responsible for implementation, and the parties who will be responsible for reporting and verifying implementation.

As stated above, the Proposed Project would result in significant and unavoidable impacts to both greenhouse gas emissions and noise. All other potentially significant project impacts would either be less than significant or would be reduced to a less-than-significant level with implementation of identified mitigation measures, as discussed throughout Chapter 3 of this EIR and in the Initial Study (Appendix 1-1).

ES.7 How to Comment on This Draft EIR

This Draft EIR is considered a draft under CEQA because it must be reviewed and commented upon by public agencies, organizations, and individuals before being finalized. This document is being distributed for a 45-day (minimum) public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects. Hard copies of the Draft EIR are available for review at the Menlo Park Library at 800 Alma Street and Belle Haven Library at 413 Ivy Drive.

Electronic copies of the Draft EIR are available for review online at https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1105-1165-OBrien-Drive. Written comments should be submitted to:

David Hogan, Contract Planner
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Email: dwhogan@menlopark.gov

Email correspondence is preferred. A public hearing for oral comments on the Draft EIR will be held before the Planning Commission on April 10, 2023. Hearing notices will be mailed to responsible agencies and interested individuals.

ES.8 Summary Tables

Information in Table ES-1, *Summary of Impacts and Mitigation Measures from the Initial Study*, (a) describes impact topics considered in the Initial Study for which the Proposed Project was found to have no impact or a less-than-significant impact not requiring mitigation, (b) identifies topics where the Proposed Project could have a significant impact, (c) recites recommended mitigation measures from the ConnectMenlo Final EIR already adopted by the City as they relate to each environmental topic in the Initial Study, and (d) recites new recommended mitigation measures specific to the Proposed Project for potentially significant impacts not mitigated to less than significant by ConnectMenlo mitigation measures. Table ES-2, *Summary of Impacts and Mitigation Measures from the EIR*, has been organized to correspond with environmental issues discussed in Chapter 3. Tables ES-1 and ES-2 are arranged in four columns: (1) impacts, (2) level of significance without mitigation, (3) mitigation measures, and (4) level of significance with mitigation.

Levels of significance are categorized as follows:

NI	No Impact
LTS	Less than Significant
PS	Potentially Significant
LTS/M	Less than Significant with Mitigation
SU	Significant and Unavoidable

For a complete description of potential impacts and recommended mitigation measures, please refer to the specific topic discussion in Chapter 3 and the Initial Study (Appendix 1-1).

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
I. Aesthetics			
a. Have a substantial adverse effect on a scenic vista	NI	N/A	N/A
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	NI	N/A	N/A
c. Conflict with applicable zoning and other regulations governing scenic quality	LTS	N/A	N/A
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area	LTS	N/A	N/A
II. Agricultural and Forestry Resources			
a. 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 nonagricultural use	NI	N/A	N/A
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract	NI	N/A	N/A
c. Conflict with existing zoning for, or cause rezoning of, forestland (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))	NI	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
d. Result in the loss of forestland or conversion of forestland to non-forest use	NI	N/A	N/A
e. Involve other changes in the existing environment that, because of their location or nature, could result in the conversion of Farmland to nonagricultural use or conversion of forestland to nonforest use	NI	N/A	N/A
III. Air Quality			
a. Conflict with or obstruct implementation of the applicable air quality plan	LTS	N/A	N/A
b. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people	NI	N/A	N/A
IV. Biological Resources			
a. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	NI	N/A	N/A
b. Have a substantial adverse effect on state or federally protected wetlands, including, but not limited to, marshes, vernal pools, and coastal wetlands, through direct removal, filling, hydrological interruption, or other means	LTS	N/A	N/A
c. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LTS	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
d. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan	NI	N/A	N/A
V. Cultural Resources			
a. Cause a substantial adverse change in the significance of a historical resource, pursuant to Section 15064.5	NI	N/A	N/A
b. Disturb any human remains, including those interred outside of formal cemeteries	PS	**ConnectMenlo Mitigation Measure CULT-4.** Procedures for 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 California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at a 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, which, in turn, will notify the person the NAHC identifies as the Most Likely Descendant (MLD). Further actions shall be determined, in part, according to 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. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
VI. Energy			
a. Result in a potentially significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation	LTS	N/A	N/A
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	LTS	N/A	N/A
VII. Geology and Soils			
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving	LTS	N/A	N/A
b. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving	LTS	N/A	N/A
c. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving	LTS	N/A	N/A
d. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving	NI	N/A	N/A
e. Result in substantial soil erosion or the loss of topsoil	LTS	N/A	N/A
f. 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 an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse	LTS	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts		Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
g.	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	LTS	N/A	N/A
h.	Have soils that would be incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater	NI	N/A	N/A
i.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	PS	**ConnectMentlo Mitigation Measure CULT-3.** In the event that fossils or fossil-bearing deposits are discovered during ground-disturbing activities anywhere in the city, 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 1995 Society of Vertebrate Paleontology standards), evaluate the potential resource, and assess the significance of the find under the criteria set forth in California Environmental Quality Act Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine the procedures to follow before resuming construction activities at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan to mitigate 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.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
IX. Hazards and Hazardous Materials			
a. Create a significant hazard for the public or environment through the routine transport, use, or disposal of hazardous materials	LTS	N/A	N/A
b. Create a significant hazard for the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	LTS	N/A	N/A
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	LTS	N/A	N/A
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard for the public or the environment	PS	**ConnectMenlo Mitigation Measure HAZ-4a.** Construction at any site in the city with known contamination shall be conducted under a project-specific prepared in consultation with the Regional Water Quality Control Board or the Department of Toxic Substances Control, as appropriate. The purpose of an ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials that were previously identified at the site and address issues related to possible encounters with unknown contamination or hazards in the subsurface. The ESMP shall summarize the soil and groundwater analytical data collected during past investigations; identify management options for excavated soil and groundwater if contaminated media are encountered during deep excavations; and identify the monitoring, irrigation, or other wells that require proper abandonment procedures, in compliance with local, state, and federal laws, policies, and regulations.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts		Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
			The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during excavation and dewatering, respectively; 2) describe required health and safety provisions for workers who may be exposed to hazardous materials, in accordance with state and federal worker safety regulations; and 3) designate the personnel who will be responsible for implementation of the ESMP.	
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area	NI	N/A	N/A
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	LTS	N/A	N/A
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires	NI	N/A	N/A
X. Hydrology and Water Quality				
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality	LTS	N/A	N/A
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin	LTS	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts		Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
c.	(i) 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 that would result in substantial erosion or siltation onsite or offsite	LTS	N/A	N/A
	(ii) 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 that would substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite	LTS	N/A	N/A
	(iii) 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 that would create or contribute water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	LTS	N/A	N/A
	(iv) 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 that would impede or redirect floodflows	LTS	N/A	N/A
d.	In a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation	LTS	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	LTS	N/A	N/A
XI. Land Use and Planning			
a. Physically divide an established community	LTS	N/A	N/A
b. 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	LTS	N/A	N/A
XII. Mineral Resources			
a. 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	NI	N/A	N/A
b. Result in the loss of availability of a locally important mineral resource recovery site, as delineated in a local general plan, specific plan, or other land use plan	NI	N/A	N/A
XIII. Noise			
a. For a project in the vicinity of a private airstrip or an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels	LTS	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
XIV. Population and Housing			
a. Displace a substantial number of existing people or housing units, necessitating the construction of replacement housing elsewhere	LTS	N/A	N/A
XV. Public Services			
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: fire protection, police protection, schools, parks, other public facilities	LTS	N/A	N/A
XVI. Recreation			
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated	LTS	N/A	N/A
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment	LTS	N/A	N/A

Table ES-1. Summary of Impacts and Mitigation Measures from the Initial Study

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
XIX. Utilities and Service Systems			
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects	LTS	N/A	N/A
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years	LTS	N/A	N/A
c. Result in a determination by the wastewater treatment provider that 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	LTS	N/A	N/A
d. 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	LTS	N/A	N/A
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	LTS	N/A	N/A

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.1 Transportation			
Impact TRA-1. The Proposed Project would not conflict with an applicable plan, ordinance, or policy for the circulation system, including transit, roadway, and bicycle and pedestrian facilities	LTS	N/A	N/A
Impact TRA-2. The Proposed Project would not exceed an applicable VMT threshold of significance	PS	**Mitigation Measure TRA-2.1.** Prior to issuance of a certificate of occupancy, the Project Sponsor shall obtain City approval for a final TDM plan. The Proposed Project will be required to implement the TDM plan included in Appendix 3.1 of this EIR. Annual monitoring and reporting, as required pursuant to Menlo Park Municipal Code Section 16.44.090(2)(B), will be required to ensure that a 27.4 percent (minimum) reduction in VMT is achieved annually for the life of the Proposed Project.	LTS/M
Impact TRA-3. The Proposed Project would not substantially increase hazards due to a design feature or incompatible uses	LTS	N/A	N/A
Impact TRA-4. The Proposed Project would not result in inadequate emergency access	LTS	N/A	N/A
Impact C-TRA-1: The Proposed Project in combination with other foreseeable projects would not conflict with an applicable plan, ordinance, or policy, including the CMP, concerning all components of the circulation system	LTS	N/A	N/A
Impact C-TRA-2: The Proposed Project in combination with other foreseeable projects would not exceed an applicable VMT threshold of significance	LTS	N/A	N/A

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact C-TRA-3: The Proposed Project in combination with other foreseeable projects would not substantially increase hazards due to a design feature or incompatible uses	LTS	N/A	N/A
Impact C-TRA-4: The Proposed Project in combination with other foreseeable projects would not result in inadequate emergency access	LTS	N/A	N/A
3.2 Air Quality			
Impact AQ-1: Cumulatively Considerable Net Increase in Criteria Pollutants. The Proposed Project would not result in a cumulative net increase in any criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard	PS	**ConnectMenlo Mitigation Measure AQ-2b1.** As part of the City's development approval process, the City shall require applicants for future development projects to comply with current BAAQMD basic control measures for reducing construction emissions of PM_{10} (Table 8-2, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of BAAQMD's CEQA Air Quality Guidelines).	LTS/M
Impact AQ-2: Expose Sensitive Receptors to Substantial Pollutant Concentrations. The Proposed Project could expose sensitive receptors to substantial pollutant concentrations	PS	**Mitigation Measure AQ-2.1.** Use Clean Diesel-powered Equipment during Construction to Control Construction-related Emissions. The Project Sponsor shall ensure that all off-road diesel-powered equipment greater than 200 horsepower used during construction is equipped with EPA-approved Tier 4 Final engines to reduce DPM emissions. Before the start of construction, the Project Sponsor shall submit evidence of the use of EPA-approved Tier 4 Final engines, or cleaner, to the City for review and approval. The evidence shall provide a reasonable level of detail regarding how the Tier 4 Final engine requirement will be met. Once construction has begun, the Project Sponsor shall submit a report to the City prior to the beginning of each construction phase (e.g. demolition, grading, foundation, etc.) that demonstrates continued compliance with the Tier 4 Final engine requirement.	LTS/M

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact C-AQ-1: The Proposed Project would not result in a cumulatively considerable net increase in any criteria pollutants	PS	ConnectMenlo Mitigation Measure AQ-2b1. See Impact AQ-1.	LTS/M
Impact C-AQ-2: The Proposed Project would not make a cumulatively considerable contribution to an impact related to toxic air contaminant emissions	PS	ConnectMenlo Mitigation Measure AQ-2b1. See Impact AQ-1. Mitigation Measure AQ-2.1. See Impact AQ-2.	LTS/M
3.3 Greenhouse Gas Emissions			
Impact GHG-1: Generation of GHG Emissions during Construction. Construction of the Proposed Project would generate GHG emissions but would not have a significant impact on the environment	PS	**Mitigation Measure GHG-1.1. Implement BAAQMD-recommended Construction Best Management Practices.** The Project Sponsor shall require its contractors, as a condition of Project approval by the City, to implement measures to minimize the level of GHG emissions associated with Project construction. These shall include, but shall not be limited to, the measures listed below, which are recommended in Appendix B of the 2017 Scoping Plan. • Instead of using fossil fuel–powered generators for temporary jobsite power or grid-sourced electricity from PG&E or Peninsula Clean Energy, solar power shall be used to power tools (e.g., drills, saws, nail guns, welders) as well as any temporary offices used by construction contractors. This measure shall be required during all construction phases, except site grubbing, site grading, and the installation of electric, water, and wastewater infrastructure. This measure shall be implemented during building demolition, the framing and erection of new buildings, all interior work, and the application of architectural coatings. Electrical outlets shall be designed according to PG&E's Greenbook standards and placed in accessible locations throughout the construction site. The Project Sponsor, or its primary construction contractor, shall coordinate with a utility to activate a temporary service account prior to proceeding with construction, rely on the property's existing power, or show proof that only solar-powered generators will be used. Implementation of this measure shall be required in the contract the Project Sponsor establishes with its construction contractors.	LTS/M

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Use local building materials for at least 10 percent of all building materials used[2] (i.e., sourced from within 100 miles of the planning area) if feasible and possible; and • Recycle at least 50 percent of construction waste and demolition material.	
Impact GHG-2: Generation of GHG Emissions during Operation and Conflicts with Applicable Plans and Policies. The level of GHG emissions associated with operation of the Proposed Project would have a significant impact on the environment and would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs	PS	Mitigation Measure TRA-2.1. See Impact TRA-2.	SU
Impact C-GHG-1: Cumulative GHG Impacts. The Proposed Project would generate GHG emissions that would have a significant cumulative impact on the environment	PS	N/A	SU
3.4 Noise			
Impact NOI-1a: Construction Noise. Construction of the Proposed Project would expose persons to and/or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies	PS	**Modified ConnectMenlo Mitigation Measures NOISE-1c. Construction Noise Reduction**. Project Sponsor, or designated representative, shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity. Prior to issuance of 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:	SU

[2] The 10 percent threshold is based on the total weight of the building material.

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• 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 those 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. **Mitigation Measure NOI-1.1. Implement Noise Reduction Plan to Reduce Construction Noise.** The Project Sponsor shall develop a noise reduction plan for construction at the Project site. The plan shall specify the noise-reducing construction practices that will be implemented to reduce noise from construction activities and demonstrate that compliance with the standards will be achievable, to the maximum extent feasible as determined by the Director of Community Development. If the noise reduction plan cannot demonstrate compliance with the standards outside the daytime hours of 8:00 a.m. to 6:00 p.m., construction activities will be required to occur only during daytime hours. The measures specified by the Project Sponsor shall be reviewed and approved by the City prior to issuance of building permits. The noise reduction plan shall: • Demonstrate that construction activities shall comply with the applicable noise limit for the time of day, as follows: o Between 7:00 am and 8:00 a.m. Monday through Friday (i.e. outside the daytime construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday), construction noise shall comply with the 60 dBA Leq limit.	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		o Between 8:00 a.m. to 6:00 p.m. Monday through Friday, construction noise shall not result in a 10 dB increase in noise over the ambient level at nearby sensitive receptors. Activities that would produce noise above the applicable early-morning noise limit shall be scheduled only during normal construction hours. • Verify that no construction activities shall take place prior to 7:00 a.m. • Verify that construction activities will be conducted at adequate distances or otherwise shielded with sound barriers, as determined through a detailed noise analysis, from noise-sensitive receptors to comply with the aforementioned thresholds. Measures used to control construction noise may include, but are not limited to: • Plan for the noisiest construction activities to occur during the daytime hours of 8:00 a.m. to 6:00 p.m. • Require all construction equipment to be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) that are in good condition (at least as effective as those originally provided by the manufacturer) and appropriate for the equipment. • Maintain all construction equipment to minimize noise emissions. • Locate construction equipment as far as feasible from adjacent or nearby noise-sensitive receptors. • Require all stationary equipment be located so as to maintain the greatest possible distance to the nearby existing buildings, where feasible and practical. • Require stationary noise sources associated with construction (e.g., generators and compressors) in proximity to noise-sensitive land uses to be muffled and/or enclosed within temporary enclosures and shielded by barriers to the extent feasible and practical, which can reduce construction noise by as much as 5 dB.	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Install noise-reducing sound walls or fencing (e.g., temporary fencing with sound blankets) around noise-generating equipment, to the extent feasible and practical. • Prohibit the idling of inactive construction equipment for prolonged periods (i.e., more than 2 minutes) during nighttime/non-standard hours. • Use electric motors rather than gasoline- or diesel-powered engines to avoid noise associated with compressed air exhaust from pneumatically powered tools during nighttime hours to the extent feasible and practical (as determined by the City). Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust could be used; a muffler can lower noise levels from exhaust by about 10 dB. External jackets on the tools themselves could be used, which could achieve a reduction of 5 dB. The noise control plan shall also include provisions for the following: • Provide advance notification in the form of mailings/notices to surrounding land uses regarding the construction schedule, including information regarding the various types of activities that would be occurring throughout the duration of the construction period. • Post the name and telephone number of an onsite construction liaison through onsite signage and the notices mailed/delivered to surrounding land uses. If construction noise is found to be intrusive to the community (i.e., if complaints are received), the construction liaison shall take reasonable efforts to investigate the source of the noise and require that reasonable measures be implemented to correct the problem. **Mitigation Measure NOI-1.2. Sound Barrier.** Prior to issuance of the first construction permit on Parcel 2, a noise barrier shall be erected along the eastern property line for Parcel 2 facing the property addressed as 1215 O'Brien Drive and along the frontage of Parcel 2. The gate providing vehicle access from Casey Court to Parcel 2 shall be	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		constructed of similar materials and shall be kept closed when not in use. Alternatively, the applicant may elect to construct the noise barrier along the Wund3rSCHOOL/Open Mind School's frontage on Casey Court to the building housing the school instead of along the Parcel 2 street frontage. This temporary noise barriers should be at least 12 feet high and constructed of material with a minimum weight of 2 pounds per square foot, with no gaps or perforations. All noise control barrier walls shall be designed to preclude structural failure due to such factors as winds, shear, shallow soil failure, earthquakes, and erosion. The design and location of the sound barrier shall be supported by a technical analysis of the proposed design and installed prior to demolition/construction. The design of the sound barrier may be incorporated into the noise control plan in Mitigation Measure NOI-1.1.	
Impact NOI-1b: Operational Noise. Operation of the Proposed Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies	PS	**ConnectMenlo Mitigation Measure 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. **Mitigation Measure NOI-1.3. Mechanical Equipment Noise Reduction Plan.** To reduce potential noise impacts resulting from Project mechanical equipment, including heating, cooling, and ventilation equipment, the Project Sponsor shall conduct a noise analysis to estimate the noise levels from Project-specific mechanical equipment, based on the selected equipment models and design features. If the noise analysis indicates that the proposed rooftop equipment will exceed the appropriate standard, a mechanical equipment noise reduction plan shall be prepared to ensure that the noise levels of equipment, once installed, are below the applicable criteria. The noise reduction plan shall include any necessary noise reduction measures required to reduce Project-specific mechanical equipment noise to a less-than-significant level. The plan shall also demonstrate that, with the inclusion of selected measures, noise from equipment would be below the significance thresholds. Feasible noise reduction	LTS/M

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		measures to reduce noise below the significance thresholds include, but are not limited to, selecting quieter equipment, utilizing silencers and acoustical equipment at vent openings, siting equipment farther from the roofline, and/or enclosing all equipment in a mechanical equipment room designed to reduce noise. The noise analysis and noise reduction plan shall be prepared by persons qualified in acoustical analysis and/or engineering. This analysis shall be conducted and the results and final noise reduction plan shall be provided to the City prior to the issuance of building permits for each building. The Project Sponsor shall incorporate all feasible methods to reduce the noise identified above, as well as other feasible recommendations from the acoustical analysis and noise reduction plan, into building designs and operations as necessary to ensure that noise sources meet applicable requirements of the respective noise ordinances at receiving properties. **Mitigation Measure NOI-1.4. 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 generator, 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 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:	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• 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 NOI-2: Vibration Effects during Construction. The Proposed Project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels	PS	**Modified ConnectMenlo Mitigation Measure NOISE-2a. Construction Vibration Reduction.** To prevent architectural damage citywide as a result of construction-generated vibration: • Prior to the issuance of a building permit for any development project requiring pile driving or blasting, the Project Sponsor, or designated representative, shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 in/sec, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed the thresholds, alternative methods, such static rollers, non-explosive blasting, and pile drilling, as opposed to pile driving, shall be used to the extent feasible and practical, subject to review and determination by the Community Development Department.	SU

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		To prevent vibration-induced annoyance as a result of construction-generated vibration: • Individual projects that involve vibration-intensive construction activities, such as blasting or the use of pile drivers, jack hammers, or vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics or an allied discipline who is able to demonstrate a minimum of 2 years of experience in preparing technical assessments regarding acoustics and/or ground-borne vibration. The study is subject to review and approval from the Community Development Department. Vibration impacts on nearby receptors shall not exceed the vibration annoyance levels (in inches per second), as follows: • Workshop = 0.126 • Office = 0.063 • Residence, daytime (7:00 a.m.–10:00 p.m.) = 0.032 • Residence, nighttime (10:00 p.m. to 7:00 a.m.) = 0.016 If construction-related vibration is determined to be perceptible at vibration-sensitive locations, additional requirements, such as less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., non-explosive blasting; pile drilling, as opposed to pile driving; preclusion for vibratory roller use; use of small or medium-sized bulldozers) to the extent feasible and practical. Vibration reduction measures shall be incorporated into the site development plan as a component of the Proposed Project and applicable building plans, subject to the review and approval from the Community Development Department. Regarding the building located at 1185 O'Brien Drive. If it is occupied by a non-applicant tenant during construction activities, heavy equipment greater than or equal to 80,000 pounds (e.g., large dozers,	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		graders, tractors, loaders, etc.) shall not be used within 30 feet of the building at 1185 O'Brien. Instead, smaller, rubber-tired equipment weighing less than 80,000 pounds (e.g., bulldozers and similar sized) shall be used within this area during Project construction to reduce vibration effects.	
Impact C-NOI-1a: Cumulative Construction Noise. Construction of the Proposed Project would result in a cumulatively considerable contribution to a cumulative construction noise impact	PS	Mitigation Measure NOI-1.1. See Impact NOI-1a. Mitigation Measure NOI-1.2. See Impact NOI-1a.	LTS/M
Impact C-NOI-1b: Cumulative Operational Noise. Operation of the Proposed Project would result in a cumulatively considerable contribution to a cumulative construction noise impact before mitigation	PS	ConnectMenlo Mitigation Measure NOISE-1b. See Impact NOI-1b. Project Mitigation Measure NOI-1.2. See Impact NOI-1a.	LTS/M
Impact C-NOI-2: Cumulative Vibration Effects. The Proposed Project in combination with other foreseeable projects would not expose persons to or generate excessive ground-borne vibration or ground-borne noise levels	LTS	N/A	N/A
3.5 Population and Housing			
Impact POP-1: Indirect Population Growth. The Proposed Project would not induce substantial population growth indirectly through job growth, nor would projected growth result in adverse direct impacts on the physical environment	LTS	N/A	LTS
Impact C-POP-1: Cumulative Indirect Population Growth. Proposed development in the city would contribute to population growth but would not exceed growth projections	LTS	N/A	LTS

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.6 Cultural and Tribal Cultural Resources			
Impact CR-1: Archaeological Resources. The Proposed Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5	PS	**Mitigation Measure CR-1.1. Worker Environmental Training.** Because of the potential for the discovery of unknown buried cultural, tribal cultural, archeological, and paleontological resources, prior to commencement of the first phase, the general contractor and those engaged in ground-disturbing activities shall be given environmental training regarding cultural and paleontological resource protection, 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 that 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.	LTS/M

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		This training may be administered by the Project archaeologist and/or paleontologist as stand-alone training or included as part of the overall environmental awareness training required as a result of 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 paleontological resources. **Mitigation Measure CR-1.2. 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). In the event that pre- contact 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, ConnectMenlo CULT-2a 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	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		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 ConnectMenlo Mitigation Measure CULT-2a. 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. **ConnectMenlo Mitigation Measure CULT-2a. Stop Work if Archaeological Material or Features Are Encountered during Ground-Disturbing Activities.** If a potentially significant subsurface cultural resource is encountered during ground-disturbing activities on any parcel in the city, all construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study. All developers in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the CEQA criteria by a qualified archaeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan to capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Menlo Park, Northwest Information Center (NWIC), and State Historic Preservation Office (SHPO), if required.	

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact CR-2: Tribal Cultural Resources. The Proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as a site, feature, place, or 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: a. Listed or eligible for listing in the California Register or a local register of historical resources, as defined in Public Resources Code Section 5020.1(k), or b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	PS	Mitigation Measure CR-1.1. See Impact CR-1. ConnectMenlo Mitigation Measure CULT-2a. See Impact CR-1. **ConnectMenlo Mitigation Measure CULT-4. Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site**. Procedures regarding conduct following the discovery of human remains citywide have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at a 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. Furthermore, 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, which, in turn, will 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 will have 48 hours to make recommendations regarding 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. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	LTS/M

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact C-CR-1: Cumulative Impacts on Archaeological and Tribal Resources and Human Remains. Construction activities on the Project site, along with other past, present and probable future development, would not result in impacts on archaeological and tribal resources and human remains	PS	Mitigation Measures CR-1.1. See Impact CR-1. Mitigation Measure CR-1.2. See Impact CR-1. ConnectMenlo Mitigation Measure CULT-2a. See Impact CR-1. ConnectMenlo Mitigation Measure CULT-4. See Impact CR-2.	LTS/M
3.7 Biological Resources			
Impact BIO-1: Impacts on Special-Status Species. The Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species that have been identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations	PS	**Mitigation Measure BIO-1.1. Avoid the Bird Nesting Season or Conduct Pre-Construction Nesting Bird Surveys.** Project activities such as vegetation removal, grading, or initial ground disturbance shall be conducted, or at least commenced, outside the nesting season, (September 1 through January 31) to the extent feasible. If Project activities must be conducted during the nesting season (February 1 through August 31), a pre-construction nesting bird survey will be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. The survey will include the Project area and the immediately adjacent area (typically 300 feet for raptors and 100 feet for other species) to identify the location and status of any nests that could be affected either directly or indirectly by Project activities. If active nests of native nesting bird species are located where construction activities could adversely affect nesting, a work exclusion zone shall be established by the qualified biologist around each nest. Established exclusion zones will remain in place until all young in the nest have fledged or the nest becomes otherwise inactive (e.g., due to predation). Appropriate exclusion zone sizes will be determined by a qualified biologist and will vary, based on species, nest location, existing visual buffers, noise levels, and other factors. An exclusion zone radius may be as small as 50 feet for common, disturbance-adapted species or as large as 300 feet for kites. Exclusion zone sizes will be reduced by a	LTS/M

Table ES-2. Summary of Impacts and Mitigation Measures from the EIR

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		qualified biologist from established levels if nest monitoring indicates that Project activities will not adversely affect a nest and the reduced exclusion will not adversely affect a nest. After the nesting effort is complete, the tree can be removed. **Mitigation Measure BIO-1.2. Inhibition of Nesting**. If construction activities begin during the nesting season, all potential nesting substrates, (e.g. trees, shrubs, grasses, and other vegetation), that are proposed for removal must be removed outside the nesting season (i.e., outside February 1 through August 31), which would preclude the initiation of nests in trees and other nesting substrates; unoccupied trees and other nesting substrates can be removed anytime following a pre-construction nesting survey.	
Impact BIO-2: Impacts on Wildlife Movement and Native Wildlife Nursery Sites. The removal of buildings, trees, shrubs, or woody vegetation would not affect the nesting habitat of native resident and migratory birds.	PS	Mitigation Measure BIO-1.1. See Impact BIO-1. Mitigation Measure BIO-1.2. See Impact BIO-2.	LTS/M

Chapter 1
Introduction

1.1 Purpose of This Environmental Impact Report

This draft environmental impact report (Draft EIR) for the 1125 O'Brien Drive Project (Proposed Project) has been prepared by the City of Menlo Park (City), the lead agency, in conformance with the provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines, as amended. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project. This Draft EIR assesses potentially significant environmental impacts that could result from the Proposed Project. As stated in the CEQA Guidelines, an EIR is an "informational document" that is intended to inform public agency decision-makers and the public of the potentially significant environmental effects of a project, identify possible ways to avoid or substantially lessen the significant effects, and describe reasonable alternatives to a project.

The purpose of this Draft EIR is to provide the City, responsible and trustee agencies, other public agencies, and the public with detailed information about the environmental effects that could result from implementing the Proposed Project; examine and institute methods for mitigating any adverse environmental impacts, should the Proposed Project be approved; and consider feasible alternatives to the Proposed Project, including the required No-Project Alternative. The City will use the EIR, along with other information in the public record, to determine whether to approve, modify, or deny the Proposed Project as well as specify any applicable environmental conditions or mitigation measures considered as part of approval.

1.2 Project Overview

O'Brien Drive Portfolio, LLC (Project Sponsor), is proposing to redevelop four separate legal lots, addressed as 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court, as well as an adjacent lot with a drainage ditch. The O'Brien Drive and drainage ditch parcels would be merged into one lot (referenced as Parcel 1 or the Building Lot) with a building. Surface parking for the building would be provided on the adjacent lot at 1 Casey Court (referenced as Parcel 2 or the Accessory Parking Lot). Parcel 1, which is 2.44 acres and part of the Menlo Park Labs campus, is currently developed with three single-story buildings, totaling approximately 38,911 gross square feet (gsf). Parcel 2 is 1.68 acres and currently developed with an approximately 20,955 gsf, single-story building.

In total, the Project site covers 4.12 acres. Figure 1-1 shows the location of the Project site. The Proposed Project would demolish existing buildings and construct an approximately 131,825 gsf, five-story life sciences building. In addition, the Proposed Project would provide a total of 229 parking stalls, with approximately 82 stalls in a surface accessory parking lot west of the proposed building and an additional 147 parking stalls on Parcel 2. Landscaping and open space (both public and private) would also be included as part of the Proposed Project.

An approximately 131,825 gsf life sciences building would accommodate an estimated 328 employees. The proposed building would be designed with the flexibility to accommodate a single life sciences tenant or meet the needs of multiple tenants. The building would be oriented in an east–west direction,

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Figure 1-1
Project Location
1125 O'Brien Drive Project

with the southern frontage along O'Brien Drive being the front façade. The entry lobby, with a publicly accessible 2,700 gsf "grab and go" café, would be on the ground floor, at the center of the south elevation. In addition, the Project includes a 500-square-foot (sf) chemical storage building on the north side adjacent to the truck dock/loading area. The proposed building would have five levels.

The Proposed Project would include a Transportation Demand Management (TDM) program to promote alternatives to private automotive travel and reduce the number of single-occupancy vehicle trips as well as the resulting traffic and greenhouse gas emissions.

As stated above, the Project Sponsor would provide parking onsite in the form of surface parking. The parking would be available to new tenants and visitors of the proposed building. In total, 249 new parking spaces would be provided at the Project site, including seven Americans with Disabilities Act–(ADA-) compliant spaces on Parcel 1 adjacent to the proposed building, along with designated spaces for electric and clean air vehicles.

The Project site is zoned Life Sciences-Bonus (LS-B), which has base- and bonus-level development regulations. The base-level development for the LS-B zone permits a maximum and average height of 35 feet for buildings and a maximum floor area ratio (FAR) of 55 percent, with an additional FAR of 10 percent for commercial uses at the base level. At the bonus level, in exchange for community amenities, the LS-B zone allows a maximum height of 110 feet and an average height of 67.5 feet as well as a FAR of up to 125 percent, with an additional 10 percent for commercial uses.

The Proposed Project would construct an approximately 101-foot-tall building, resulting in an average building height on the site of approximately 60.6 feet. The Proposed Project would result in the site having a floor area of approximately 131,825 gsf and a FAR of 74 percent. Therefore, the Project Sponsor would be required to provide community amenities in exchange for bonus-level development, which would be provided consistent with the requirements of Section 16.44.070 of the City Zoning Ordinance.

1.3 CEQA Process

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 M-2 Area, now referred to as the Bayfront Area, was approved on November 29, 2016. It serves as the City's comprehensive and long-range guide to land use and infrastructure development in the Bayfront Area. ConnectMenlo allows for an increase in net new development potential in the Bayfront Area of up to 2.3 million gsf for non-residential uses, along with up to 4,500 residential units and up to 400 hotel rooms.

Because a general plan is a long-range planning document, the ConnectMenlo EIR[1] 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. However, if the Program EIR adequately addresses a project's potentially significant impacts, subsequent activities can be found to be within the Program EIR's scope, and additional environmental

[1] The ConnectMenlo EIR can be found online at https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo.

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 the feasible mitigation measures 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 were not examined in the 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 lead agency has concluded that the ConnectMenlo Program EIR serves as environmental analysis for some of the effects of the Proposed Project (i.e., incorporated by reference pursuant to Sections 15150, 15130, and 15183). Other environmental areas and topics that were identified in the Initial Study (see Appendix 1-1) as being subject to potentially significant effects but not fully covered by the ConnectMenlo EIR will receive additional environmental review in this EIR.

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, the environmental analysis for the Proposed Project relies on the ConnectMenlo 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 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 mitigation measures adopted by the ConnectMenlo EIR.

An Initial Study was prepared to evaluate the potential environmental impacts of the Proposed Project and determine what level of additional environmental review is appropriate. In accordance with the requirements outlined in Section 15168 of the CEQA Guidelines, the Initial Study was prepared to disclose the relevant impacts and mitigation measures covered in the ConnectMenlo EIR and discuss whether the Proposed Project is within the parameters of the ConnectMenlo EIR. Consistent with the 2017 settlement agreement with the City of East Palo Alto (discussed below) and the findings in the Initial Study, this EIR was prepared for impacts that need further discussion and/or mitigation beyond that provided in the ConnectMenlo EIR. This is discussed in more detail in Chapter 3, *Environmental Impact Analysis*.

2017 Settlement Agreement

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 an Office (O), Life Science (LS), or Residential Mixed-Use (R-MU) 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 EIR, pursuant to CEQA Guidelines Section 15168(d). East Palo Alto will prepare an Initial Study for future development projects located within its city limits 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 update, 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 will be analyzed and mitigated.
- *Reciprocal Study of Multiplier Effect*. When 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 on indirect and induced employment.

Pursuant to the settlement agreement, certain topics have been identified as needing further environmental review. This EIR and the Initial Study (Appendix 1-1) 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. Per CEQA Guidelines 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 tiers from the ConnectMenlo Final EIR, as appropriate and further described in each topical section.

The Proposed Project would be required to comply with all applicable mitigation measures identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP), which is an existing and enforceable MMRP prepared for the ConnectMenlo Final EIR and a requirement of any proposed development project in the city. Applicable mitigation measures identified in the Initial Study are provided in Table ES-1 of the *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 1-1).

Proposed Project EIR Scope

As explained in more detail in the section below, the City circulated a Notice of Preparation (NOP) to notify responsible agencies and interested parties that an EIR would be prepared for the Proposed Project and indicate the environmental topics that were anticipated to be addressed in the EIR. An Initial Study was circulated with the NOP.[2] After a review of the preliminary analysis in the Initial Study (see Appendix 1-1), consultation with City staff members, and a review of the comments received during the scoping process, it was determined that the following environmental topics would be addressed in Chapter 3, *Environmental Impact Analysis*, of this EIR:

- Section 3.1, *Transportation*
- Section 3.2, *Air Quality* (except conflict with plans and odors)
- Section 3.3, *Greenhouse Gas Emissions*
- Section 3.4, *Noise* (except airport land use plans)
- Section 3.5, *Population and Housing* (except displacement of people or housing)
- Section 3.6, *Cultural* (except historical resources and human remains) *and Tribal Cultural Resources*
- Section 3.7, *Biological Resources* (except riparian habitat or other sensitive natural communities, wetlands, conflicts with local policies, or conflicts with habitat conservation plans and natural community conservation plans)

It was determined in the Initial Study that the following potential environmental effects of the Proposed Project would be less than significant or would have no impact on the following topics, which are therefore not studied further in this EIR: aesthetics, agricultural and forestry resources, air quality (conflict with plans and odors), biological resources (riparian habitat or other sensitive natural communities, wetlands, conflicts with local policies, or conflicts with habitat conservation plans and natural community conservation plans), cultural resources (historical resources and the inadvertent discovery of human remains), energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise (airport land use plans), population and housing (displacement of people or housing), public services, recreation, and utilities and service systems. Each of these topic areas is addressed in the Initial Study (see Appendix 1-1). In addition, the Initial Study determined that impacts on human remains would be less than significant with application of mitigation from the ConnectMenlo EIR. Because this impact has been adequately addressed in the Initial Study, no additional analysis is included in this EIR.

Notice of Preparation

The NOP was released for the Proposed Project on July 30, 2021, for a 30-day public review period. A public scoping meeting was held on August 9, 2021, 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 1-2 of this Draft EIR.

[2] CEQA Guidelines Section 15063(c)(3) states that one purpose of an Initial Study is to "[a]sist the preparation of an EIR, if one is required, by: (A) Focusing the EIR on the effects determined to be significant, (B) Identifying the effects determined not to be significant, (C) Explaining the reasons for determining that potentially significant effects would not be significant, and (D) Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects."

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:

- California Department of Transportation
- 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 1-2 of this Draft EIR.

With respect to CEQA and the Proposed Project, comments in response to the NOP generally identified the following areas of potential concern:

- **Transportation**: Analysis of traffic operations, trip generation, trip distribution, trip assignments, trip reductions, TDM plan, transportation impact fees, study intersections, impacts on surrounding jurisdictions, bicycle and pedestrian routes, and mitigation measures to reduce potential impacts.
- **Hazards and Hazardous Materials:** Analysis of proposed research-and-development uses and chemical storage on surrounding uses, including the SFPUC right-of-way.
- **Hydrology and Water Quality:** Analysis of potential drainage impacts on surrounding properties, including the SFPUC right-of-way.
- **Tribal Cultural Resources:** Analysis of potential impacts on tribal cultural resources and tribal consultation requirements.
- **Utilities and Service Systems**: Analysis of potential impacts on the SFPUC right-of-way and water supply.
- **Alternatives**: Analysis of Proposed Project alternatives and potential alternatives to be considered.

Comments related to transportation are considered and addressed in Section 3.1, *Transportation*, of this EIR. Similarly, impacts related to tribal cultural resources are addressed in Section 3.6, *Cultural and Tribal Cultural Resources,* of this EIR. Comments related to the hazards and hazardous materials as well as drainage impacts on the SFPUC right-of-way are addressed in Section IX, *Hazards and Hazardous Materials*, and Section X, *Hydrology and Water Quality*, of the Initial Study (Appendix 1-1). Comments related to the impacts of the Proposed Project on the water supply and the SFPUC right-of-way are addressed in Section XIX, *Utilities and Service Systems*, of the Initial Study. Alternatives suggested by the commenters are considered in Chapter 5, *Alternatives*, of this EIR.

Draft EIR

Impact Analysis

This Draft EIR analyzes significant effects that could result from the Proposed Project. As explained in Section 15002(g) of the CEQA Guidelines, a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by a project. Pre-project environmental conditions (the environmental baseline) are considered in determining impact significance. The impact significance thresholds for each environmental resource area presented in this Draft EIR are based on CEQA Guidelines Appendix G, *Environmental Checklist Form*. In addition, this Draft EIR uses City-adopted significance criteria for transportation impacts. When significant impacts are identified, the Draft EIR recommends feasible mitigation measures to reduce, eliminate, or avoid the significant impacts and identifies which significant impacts are unavoidable despite mitigation.

As discussed in more detail in Chapter 3, *Environmental Impact Analysis*, cumulative impacts, which are two or more individual effects that, when considered together, are considerable or compound or increase other related environmental impacts, are discussed for each environmental resource area. The methodology for assessing cumulative impacts varies by topic in this EIR; however, CEQA requires cumulative impacts to be analyzed with use of either a list of past, present, or probable future projects with related or cumulative impacts, in addition to the impacts of the project being analyzed in the document, or a summary of the projections contained in an adopted local, regional, or statewide plan or related planning document, such as a general plan, that describes or evaluates the conditions that contributed to the cumulative effect. This document also discusses feasible alternatives to the Proposed Project in Chapter 5, *Alternatives*.

In accordance with Section 15143 of the CEQA Guidelines, this Draft EIR provides an analysis of the potentially significant effects on the environment that could result from construction and operation of the Proposed Project. Section 15131 of the CEQA Guidelines specifies that "the intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Therefore, this Draft EIR does not treat economic or social effects of the Proposed Project that lack physical effects as significant impacts on the environment. In addition, if it is determined that a potential impact is too speculative for evaluation, this condition is noted, and further discussion of the impact is not necessary under CEQA.

Public Review

This Draft EIR is considered a draft under CEQA because it must be reviewed and commented on by public agencies, organizations, and individuals before being finalized. This document is being distributed for a 45-day public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects or raise specific questions about details in the Draft EIR. Hard copies of the Draft EIR are available for review at the Menlo Park Library located at 800 Alma Street and the Belle Haven Branch Library located at 413 Ivy Drive. Electronic copies of the Draft EIR are available for review online at https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1105-1165-OBrien-Drive?lang_update=638091120198376297.

Written comments should be submitted to:

David Hogan, Contract Planner
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Email: dwhogan@menloparkgov

A public hearing to take oral comments on the Draft EIR will be held before the Planning Commission on April 10, 2023. Hearing notices will be mailed to responsible agencies and interested individuals.

Final EIR and Project Approval

Following the close of the public review period, the City will prepare responses to all substantive comments related to potential physical changes to the environment. The Draft EIR, along with the responses to the written and oral substantive comments received during the review period, will make up the Final EIR and be considered by the Planning Commission in making the decision whether to certify the Final EIR and then whether to approve or deny the Proposed Project.

Certification of the Final EIR by the Planning Commission as complete and adequate, in conformance with CEQA, does not grant any land use approvals or entitlements for the Proposed Project. The merits of the Proposed Project will be considered by the Planning Commission in tandem with the review of the Final EIR. The CEQA Guidelines require that, for one or more significant and unavoidable impacts that cannot be substantially mitigated, the lead agency must prepare a Statement of Overriding Considerations that balances the social, economic, technological, and legal benefits of approving a project against the significant and unavoidable environmental impacts that would result from project implementation. If significant and unavoidable impacts are identified, approval of a Statement of Overriding Considerations will be required.

1.4 Report Organization

The EIR is organized into the following sections:

- *Executive Summary*: Provides a summary of the Proposed Project as well as impacts that would result from its implementation. It also describes the mitigation measures recommended to reduce, eliminate, or avoid significant impacts. In addition, the *Executive Summary* discusses alternatives to the Proposed Project. It also describes areas of controversy known to the lead agency, including issues raised by other agencies and the public.
- *Chapter 1, Introduction*: Discusses the overall purpose of the EIR, provides a summary of the Proposed Project and the CEQA process, and summarizes the organization of the EIR.
- *Chapter 2, Project Description*: Provides a description of the Project site and discusses site development, Proposed Project objectives, the required approval process, and the characteristics of the Proposed Project.
- *Chapter 3, Environmental Impact Analysis*: Describes the following for each environmental topic: existing conditions (setting), applicable regulations adopted by the City and other agencies, ConnectMenlo Final EIR impacts and required mitigation measures applicable to the Proposed

Project, potential environmental impacts of the Proposed Project and their level of significance, and mitigation measures recommended to reduce or avoid identified potential significant impacts. Potential cumulative impacts are also addressed in each topical section.

Adverse impacts are identified by level of significance, as follows: no impact (NI), less than significant (LTS), less than significant with mitigation (LTS/M), and significant and unavoidable despite any identified mitigation (SU). The significance of each potential impact is categorized before and after implementation of any recommended mitigation measure(s).

- *Chapter 4, Other CEQA Considerations*: Provides specific analyses of the Proposed Project's effects, as required by CEQA: growth inducement; significant irreversible changes; cumulative impacts; effects that were found not to be significant, including Initial Study findings; and significant and unavoidable environmental impacts.
- *Chapter 5, Alternatives*: Evaluates alternatives to the Proposed Project, in addition to the No-Project Alternative.
- *Chapter 6, List of Preparers:* Lists the people who prepared the EIR for the Proposed Project.

Chapter 2
Project Description

O'Brien Drive Portfolio, LLC (Project Sponsor), is proposing to construct an approximately 131,825-gross-square-foot (gsf) building for research-and-development (R&D) uses as well as surface parking on two parcels as part of the 1125 O'Brien Drive Project (Proposed Project). The proposed building would be located on a site consisting of three separate legal lots, addressed as 1105, 1135, and 1165 O'Brien Drive, as well as an adjacent lot with a drainage ditch that would be merged into one lot and referred to as Parcel 1 or the Building Lot. In addition, surface parking for the building would be provided on an adjacent lot addressed at 1 Casey Court and referred to as Parcel 2 or the Accessory Parking Lot. Parcel 1, which covers 2.44 acres, part of the Menlo Park Labs campus, is currently developed with three single-story buildings, totaling approximately 38,911 gsf. Parcel 2 covers 1.68 acres and is currently developed with an approximately 20,955 gsf, single-story building that would be demolished as part of the Proposed Project. In total, the Project site covers 4.12 acres. The Proposed Project represents 71,959 gsf of net new R&D space and 89 net new parking spaces.

The Project Sponsor would demolish the existing buildings and construct a new 131,825 gsf, five-story building that would include R&D uses; office uses associated with the primary R&D uses; a 500-square-foot (sf) chemical storage area, also associated with the primary R&D uses; and ground-floor commercial space. The roof of the building would have a 2,434 sf paved deck with seating areas, 2,095 sf of landscaping, and 1,966 sf for circulation for a total area of approximately 6,608 sf. The exterior of the Building Lot would feature an entry plaza, a shuttle stop, bioretention areas, and two driveways from O'Brien Drive. The Proposed Project would provide a total of 229 parking stalls, with approximately 82 stalls in a surface accessory parking lot west of the building on Parcel 1 and the other 147 parking stalls on Parcel 2.

2.1 Project Location, Setting, and Background

Project Location

The Project site is north of US 101 in Menlo Park (as shown in Figure 1-1). The site is bounded by the Hetch Hetchy right-of-way, which is owned by the San Francisco Public Utilities Commission (SFPUC), to the north; O'Brien Drive to the east and south; and a warehouse to the west adjacent to Kelly Court. In addition, Dura-Foam Roofing and Wund3rSCHOOL/Open Mind School, a small private school, are north and east of the Project site on O'Brien Drive. Farther to the north are the inactive Dumbarton Rail Corridor, State Route (SR) 84, tidal mudflats and marshes along San Francisco Bay (Bay), the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), and Ravenswood Slough. Farther to the east (across University Avenue) and south (beyond O'Brien Drive) are the neighborhoods of East Palo Alto. Included in these neighborhoods, the closest of which is 300 feet from the Project site, are mainly single-family residences, along with multi-family residential buildings, neighborhood-serving retail, the Cesar Chavez Ravenswood Middle School and San Francisco 49ers Academy, the 4 Corners Civic Hub (including the East Palo Alto Library, city hall, and post office), Costaño Elementary School, and Jack Farrell Park.

The Belle Haven neighborhood of Menlo Park is west of Willow Road, approximately 0.25 mile from the Project site. The Belle Haven neighborhood features a mix of uses, including churches, Menlo Park Fire Station No. 77, single-family residences, multi-family residential buildings, and institutional

buildings. A neighborhood-serving retail center is at the corner of Hamilton Avenue and Willow Road. The Belle Haven neighborhood's institutional and park uses include Beechwood School, Belle Haven Elementary School, the Belle Haven Pool, Belle Haven Youth Center, Onetta Harris Community Center, Menlo Park Senior Center, Boys and Girls Club, Hamilton Park, Karl E. Clark Park, Belle Haven Community Garden, and Kelly Park. The Menlo Park City Council has approved a project that will redevelop the Onetta Harris Community Center and Menlo Park Senior Center as a new multi-generational facility that will incorporate the current Onetta Harris Community Center, Menlo Park Senior Center, Belle Haven Youth Center (for childcare), Belle Haven Pool, and a branch library. Construction of this multi-generational facility began in 2021; it is expected to open in 2023.

Regional highways that provide access to the Project site include US 101, approximately 0.5 mile to the south, and SR 84, which is across the Dumbarton Rail Corridor and to the north. The Menlo Park Caltrain station is approximately 2.3 miles southwest of the Project site; the Palo Alto Caltrain station is approximately 2.4 miles south of the Project site, providing weekday service between San Francisco and Gilroy and weekend service between San Francisco and San José. Existing bus routes serve Newbridge Street and Bay Road south of the Project site and Willow Road west of the Project site.

Project Site Setting

The Menlo Park Labs campus is home to a variety of life science and biotech companies. The entire Menlo Park Labs campus, with approximately 1.7 million gsf of space within its buildings, includes landscaping, surface parking lots, onsite food services, and recreational facilities for tenants.[1] Transportation is provided for tenants throughout the campus by Menlo Park Rides, which offers bike-share, shuttle, and car-share services as well as electric-vehicle (EV) charging stations. Shuttle services are provided to/from San Francisco, the Union City Bay Area Rapid Transit (BART) station, the Millbrae BART/Caltrain station, and the Palo Alto Caltrain station.[2]

The Building Lot (Parcel 1) includes buildings at 1105, 1135, and 1165 O'Brien Drive (Table 2-1). The three single-story buildings, with a maximum height of 20 feet, are on two properties (assessor's parcel number [APN] 055-433-320 and APN 055-433-330). An adjacent property to the west (APN 055-433-350) contains an approximately 20-foot-wide drainage ditch that collects runoff from storm drains in East Palo Alto; this is also part of the Building Lot. In total, the Building Lot has an area of 2.44 acres (106,355 sf). Two of the existing office/R&D buildings total approximately 26,911 gsf; the third existing office/warehouse building totals approximately 12,000 gsf, resulting in a total existing floor area ratio (FAR) of approximately 37 percent across the three buildings. The buildings are surrounded by surface parking lots containing 98 uncovered stalls. Minimal decorative landscaping is included at the front entries to the buildings and along the O'Brien Drive frontage.

The Proposed Project includes development of a second parcel (Accessory Parking Lot or Parcel 2) at 1 Casey Court (APN 055-433-180). This parcel would be used for surface parking. In total, the Accessory Parking Lot has an area of approximately 1.68 acres (73,000 sf). The existing office/warehouse building on the parcel totals approximately 20,955 gsf; the FAR is approximately 29 percent. The height of the existing buildings is approximately 19.2 feet. The Accessory Parking Lot currently has onsite surface parking with 44 uncovered stalls. Minimal landscaping exists on the property.

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1 Tarlton Properties. 2021a. *Menlo Park Labs – About*. Available: https://tarlton.com/properties. Accessed: April 29, 2021.

2 Tarlton Properties. 2021b. *Menlo Park Rides*. Available: https://www.menloparkrides.com/. Accessed: July 22, 2019.

Table 2-1. Existing Buildings at the Project Site

Project Site	Use	Date Constructed	Building Area
Building Lot/Parcel 1			
1105 O'Brien Drive	Office/Warehouse	**1962**	12,000 gsf
1135 O'Brien Drive	Office/R&D	**1963**	16,835 gsf
1165 O'Brien Drive	Office/R&D	**1960–1965**	10,076 gsf
Accessory Parking Lot/Parcel 2			
1 Casey Court	Office/Warehouse	**1974–1981**	20,955 gsf
Total Building Area (Parcel 1 &2)			**59, 866 gsf**

Source: Tarlton Properties and DES Architects + Engineers, 2020.

The existing Project site has approximately 91 employees at Parcel 1[3] and approximately 52 employees at Parcel 2,[4] for a total of 143 employees.

General Plan and Zoning Designations

The site is designated as Life Sciences (LS) on the City of Menlo Park's (City's) General Plan Land Use Designations Map, which was updated as part of the City's General Plan and M-2 Area Zoning Update (referred to as ConnectMenlo). The purpose of ConnectMenlo was to create live/work/play environments within the Bayfront Area and encourage office, R&D, residential, and commercial uses, as well as hotels, in proximity to one another and integrated with one another. The Life Sciences designation provides for new life science and R&D uses, along with high-tech office uses and supportive sales and personal services. The designation also accommodates existing light industrial uses as well as new light industrial uses that are not in conflict with existing or planned commercial or residential uses in the vicinity.[5]

The Project site was historically zoned General Industrial (M-2), which permitted office and general industrial uses, such as warehousing, manufacturing, printing, and assembly work. In 2016, the Project site's zoning was changed to Life Science, Bonus (LS-B) as part of ConnectMenlo process. The updated zoning created three new base zoning districts (Office [O], Residential-Mixed Use [R-MU], and Life Sciences [LS]), with the potential for certain properties (zoned Office-Bonus [O-B], Residential-Mixed Use-Bonus [R-MU-B], or Life Sciences-Bonus [LS-B]) to apply for bonus-level zoning to increase the density, FAR, and/or height in exchange for providing community benefits consistent with the requirements of Section 16.44.070 of the City Zoning Ordinance. The updated Zoning Ordinance also established standards for new projects, including Transportation Demand Management (TDM) requirements and restrictions regarding height, density, land use, sustainability, circulation, and open space.

[3] Based on the Project Sponsor's estimate of one employee per 400 gsf for the 26,911 gsf of R&D space at 1135 O'Brien Drive and 1165 O'Brien Drive plus one employee per 400 gsf for the 1,750 gsf of R&D space and one employee per 500 gsf for the 10,250 gsf of warehouse space at 1105 O'Brien Drive.

[4] Based on the Project Sponsor's estimate of one employee per 500 gsf for the 20,955 gsf of warehouse space and 2019 California Building Standards Code data for occupant loads.

[5] City of Menlo Park. 2016. *General Plan—ConnectMenlo, Menlo Park Land Use and Mobility Update*. November 29. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: February 21, 2023.

Base-level zoning allows a FAR of up to 55 percent for life science uses and a height of up to 35 feet. However, the updated zoning establishes bonus-level standards, with a FAR of up to 125 percent for life science uses and an additional FAR of 10 percent for commercial uses, along with a maximum height of up to 110 feet, in exchange for the provision of community amenities, as selected from the list of potential options identified through community outreach and adopted by resolution of the Menlo Park City Council. The Project Sponsor has applied for the "B" bonus-development allowance for additional building height and additional floor area.

2.2 Project Objectives

This environmental impact report (EIR) addresses the physical impacts of the Proposed Project, as required by the California Environmental Quality Act (CEQA). The City and the Project Sponsor have identified the following objectives, which are relevant to the physical impacts considered in this document:

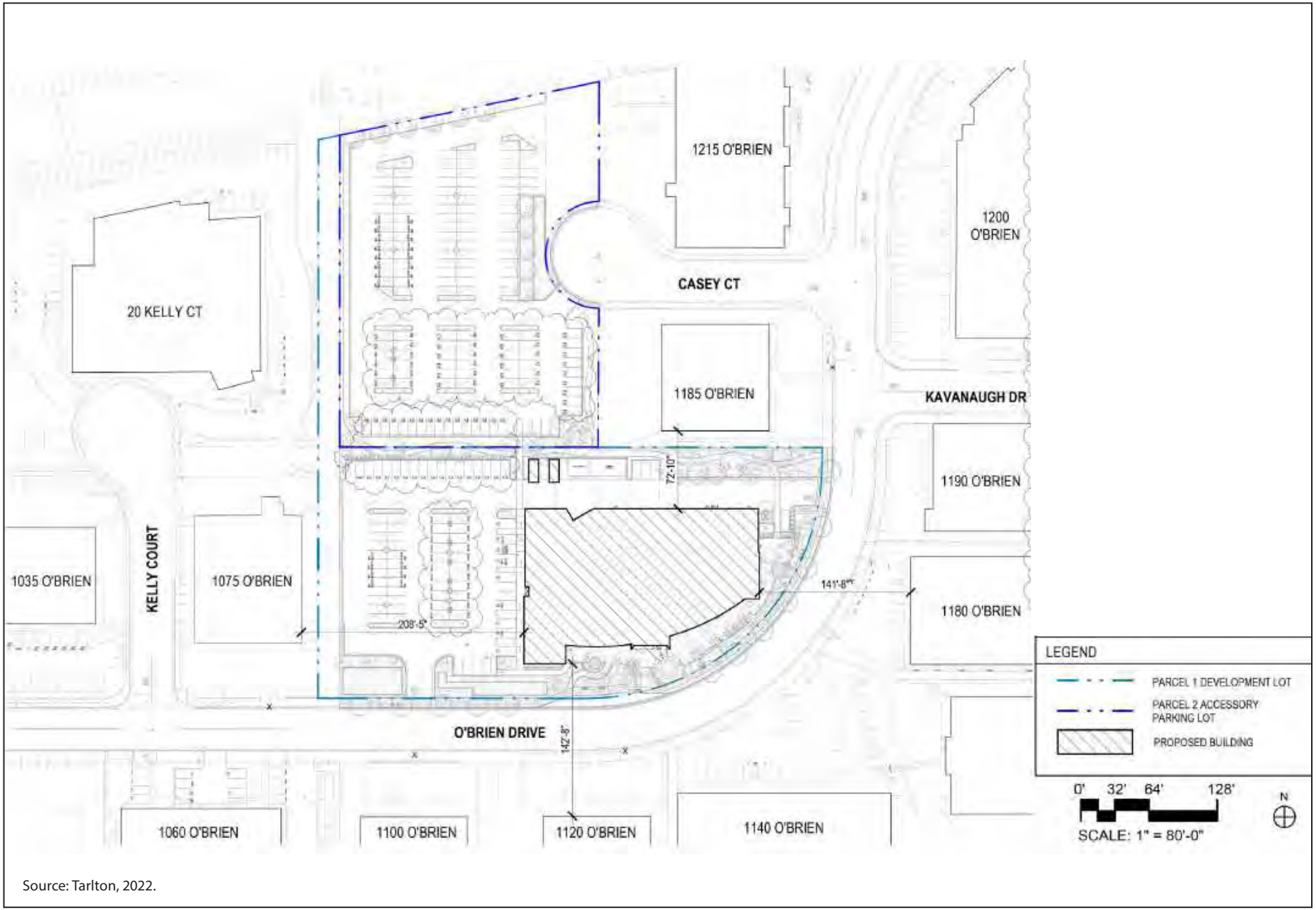
- Build a cutting-edge life science building that will cater to the Bay Area and Stanford entrepreneurial community as well as life sciences companies both regionally and nationally.
- Develop an environmentally sustainable, high-quality aesthetic facility with the flexibility to accommodate a single life science tenant or meet the needs of multiple tenants.
- 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.
- Develop space that will accommodate life science employees and jobs in the new Life Sciences district.
- Provide community amenities for surrounding neighborhoods consistent with ConnectMenlo goals and policies.
- Enhance public accessibility from O'Brien Drive to potential future public open spaces along the Hetch Hetchy right-of-way while providing private (non-public) open space opportunities onsite.
- Achieve Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent for building design and construction.

2.3 Project Characteristics

Land Use and Zoning

As mentioned above, the Project site was rezoned LS-B in 2016 through the ConnectMenlo process. At the base level, the average height and maximum height are 35 feet, while the maximum FAR permitted is 55 percent. At the bonus level, the Zoning Ordinance allows a FAR of up to 125 percent (plus 10 percent for commercial use) and a maximum height of 110 feet in exchange for community benefits.

The Project Sponsor would construct an approximately 131,825 gsf building on the 4.12-acre site under bonus level development standards (see Figure 2-1 for the proposed site plan). The building would include R&D space for a future tenant and a café. With implementation of the Proposed Project studied



Source: Tarlton, 2022.

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Figure 2.1
Proposed Site Plan
1125 O'Brien Drive Project

in this EIR, the Project site would have a combined FAR of 74 percent (72 percent FAR for R&D with 2 percent FAR for commercial); the proposed building would have a maximum height of approximately 101 feet. The average building height would be 60.6 feet. Therefore, the Proposed Project would require the Project Sponsor to provide community amenities in exchange for bonus-level development.

Table 2-2 compares the allowed development under LS zoning for both the base level and bonus level as well as development proposed under the Proposed Project. Because the Project site is composed of multiple parcels, three of the existing parcels (APNs 055-433-320, 055-433-330, and 554-433-350) would be merged into one parcel (known as Parcel 1). The remaining parcel (APN 055-433-180), known as Parcel 2, would not be merged. Both Parcel 1 (Building Lot) and Parcel 2 (Accessory Parking Lot) are included in the calculations. In addition, all development would need to consider the development standards for the proposed building (i.e., FAR, average height, landscaping, building coverage, open space, etc.), and comply with the design standards for the LS zoning district.

Table 2-2. Allowed and Proposed Development at the Project Site

	LS Zoning Requirements (Base Level)	LS Zoning Requirements (Bonus Level)	Proposed Development
Site Area	25,000 sf (minimum [min.]) 100 feet × 100 feet (min.)	25,000 sf (minimum [min.]) 100 feet × 100 feet (min.)	106,358 sf (Lot 1) 73,180 sf (Lot 2) 179,538 (Total)
Floor Area Ratio (FAR)	55% (+10% commercial)	125% (+10% commercial)	72% (129,166 sf)[a]
Maximum Height[b]	35 feet (+10 feet, flood zone)	110 feet (+10 feet, flood zone)	101 feet[c]
Average Height[b,d]	35 feet (+10 feet, flood zone)	66 feet (+10 feet, flood zone)	61 feet
Open Space[e]	35,908 sf min (20% of total)	35,908 sf min (20% of total)	39,666 sf (22.5% of total)
Public Open Space[f]	17,954 sf min (10% of total)	17,954 sf min (10% of total)	20,873 sf (11.6% of total)

Source: Tarlton Properties and DES Architects + Engineers, 2023.

Notes:

a. The Proposed Project includes 131,825 gsf of development, 129,166 of which is floor area used for calculating FAR. FAR is calculated based on the combined area of Lots 1 and 2.

b. Properties within the flood zone or subject to flooding and sea-level rise are allowed a 10-foot increase in average height and maximum height.

c. Does not include parapet or mechanical equipment.

d. Height is defined as average height of all buildings on one site where a maximum height cannot be exceeded.

e. Open space calculations are based on the square footage of the Project site and not on the new building area.

f. Public open space area is also included in open space totals.

Proposed Development

The Proposed Project would involve demolition of four buildings and construction of a 131,825 gsf R&D building that would be designed with the flexibility to accommodate a single R&D/life science tenant or meet the needs of multiple tenants. The building would be oriented in an east–west direction, with the southern frontage along O'Brien Drive being the front façade. The entry lobby, with an approximately 2,700 gsf "grab and go" café, would be on the ground floor, at the center of the south elevation. A 500 sf chemical

storage building would be provided north of the R&D building, in the truck dock/loading area. The main lobby and the first floor would be more than 2 feet above the base flood elevation, as required by the LS zoning district. A basement would not be constructed. The R&D building would have a footprint of approximately 26,760 sf, or approximately 24.5 percent of the Building Lot. Table 2-3, and Figures 2-2 and 2-3, summarizes the usable building area.

Table 2-3. Proposed Total Building Areas

	R&D Building
R&D	125,021 gsf
Café	2,659 gsf
Chemical Storage (exterior)	500 gsf
Bicycle Storage	575 gsf
Roof Stairs/Elevator/Storage	3,070 gsf
Total Building Area	***131,825 gsf***

Source: Tarlton Properties and DES Architects + Engineers, 2021.

West of the proposed R&D building there would be 82 surface parking stalls. North of the Building Lot, an additional 147 surface parking stalls are proposed on the adjacent Accessory Parking Lot. Access to parking on the Building Lot would be provided from O'Brien Drive via a driveway in the southwest and northeast corners of the site. Access to the Accessory Parking Lot would be provided from Casey Court. The two parking areas would not be internally connected. Up to 229 surface stalls would be provided as a part of the Proposed Project. A sidewalk would connect the two parking lots.

Site Access, Circulation, and Parking

Vehicular Access and Circulation. The Project site would be accessible from two driveways on O'Brien Drive as well as a driveway on Casey Court. In addition, a pull-out loading area would be included at the front of the proposed building on O'Brien Drive. This would allow drivers in vehicles, including shuttles, to drop off and pick up passengers without blocking traffic. The primary entrance/exit for employees would be at the west side of the new building, in the area where vehicles would access the parking lot. Additional parking would be accessible from the driveway on Casey Court. A secondary driveway would be provided in the northeast portion of the Building Lot, mainly for service vehicle access. A truck loading dock would be on the northwest side of the building and would be screened from the street by landscaping. It is anticipated that there will be (on average) approximately three truck deliveries would be made per weekday. Service vehicles would be able to use either of the two driveways to access the site.

Bicycle and Pedestrian Circulation. The Project site would be accessible to bicyclists and pedestrians via existing sidewalks and planned bicycle lanes along O'Brien Drive. No additional bicycle or pedestrian connections or linkages are proposed as part of the Proposed Project. There would be 20 Class I secure bicycle lockers for long-term parking and five Class II bicycle racks for short-term parking on the Project site.

Source: Tarlton, 2022.

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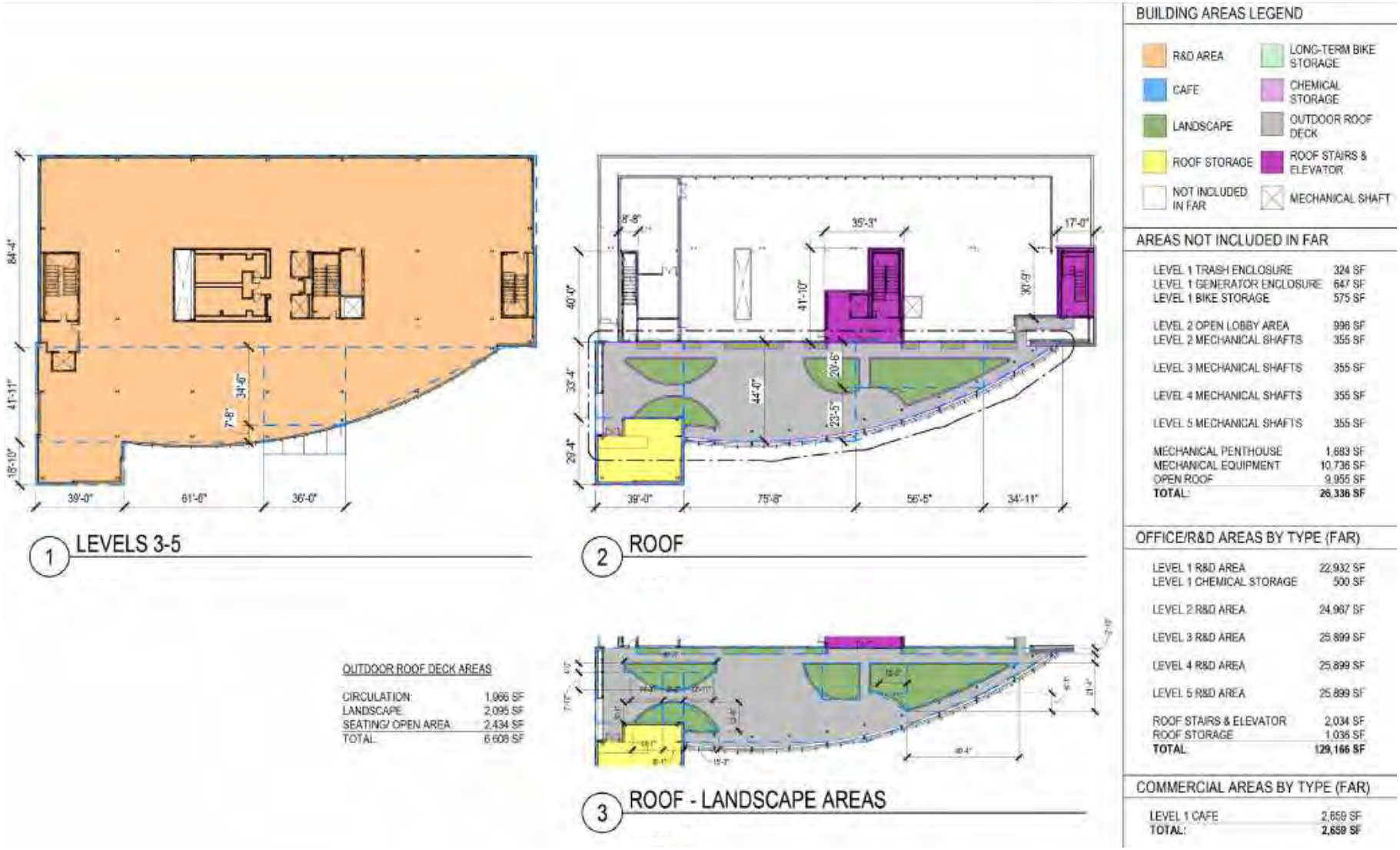
Figure 2-2
Proposed 1125 O'Brien Building Floor Plan (Levels 1 and 2)
1125 O'Brien Drive Project



Source: Tarlton, 2022.

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Figure 2-3
Proposed 1125 O'Brien Building Floor Plan (Levels 3-5 and Roof)
1125 O'Brien Drive Project

Emergency Access. Emergency access to the Project site would be provided via the parking lot entrances from O'Brien Drive and from the loading area at the front of the proposed building. Two existing fire hydrants, which would remain under the Proposed Project, are located along O'Brien Drive. However, one of these fire hydrants would be relocated to the proposed entrance at the driveway in the southeastern portion of the Project site; the other existing hydrant would be near the entrance to the building. In addition, two new fire hydrants are proposed: one hydrant on O'Brien Drive near the northwest corner of the building and one hydrant near the northeast corner of the building. In total, four fire hydrants would be located around the proposed building.

Parking. All of the existing parking would be removed as part of the Proposed Project. New parking spaces would be provided on site in the form of surface parking. The parking would be available to tenants and visitors of the proposed building. The Building Lot would include 82 parking spaces, and the Accessory Parking Lot would include 147 parking spaces, for a total of 229 parking spaces. Included in the total would be Americans with Disabilities Act– (ADA-) compliant spaces on Parcel 1, adjacent to the building. There would be a total of 103 EV capable spaces, with 34 of them fully equipped for EV charging and the remainder wired for future charger installation, in compliance with applicable state regulations. Table 2-4 summarizes the proposed parking at the Project site.

Table 2-4. Proposed Parking

	Parking Spaces
Building Lot/Parcel 1	**82**
Standard	25
EVCE	26*
EV Ready	16
Clean Air Vehicles	8
ADA	7
Accessory Parking Lot/Parcel 2	**147**
Standard	70
EVCES	8
EV Ready	53
Clean Air Vehicles	16
Total	***229***

Source: Tarlton Properties and DES Architects + Engineers, 2023
* Three of these spaces are reserved for ADA parking spaces.

Proposed TDM Program

A TDM program would be implemented as part of the Proposed Project, consistent with the requirements of Menlo Park Municipal Code Section 16.44.090, to reduce the number of Project trips by at least 20 percent (see Appendix 3.1). The TDM program would be designed to provide alternatives to single-occupancy automobile travel to and from the Project site.

The following TDM measures would be implemented as part of the Proposed Project's TDM Program in an effort to reduce Project-generated vehicle trips and encourage travel by other modes[6]:

- Bicycle storage
- Showers/changing rooms
- Subsidized transit tickets (GoPass for Caltrain)
- Commute assistance center/computer kiosk connected to internet
- Bike-share program
- Enterprise car-share program
- Shuttle stop
- EV charging stations

Landscaping and Open Space

Landscaping would be concentrated along the street frontages for O'Brien Drive and Casey Court as well as along the property line between Parcels 1 and 2. The landscaping would be designed to complement the existing campus buildings in the area. Approximately 29,100 sf of landscaping would be included as part of the Proposed Project. There are currently 40 trees on the Project site, 38 of which would be removed during construction of the Proposed Project. Of these, 12 are heritage trees (i.e., having diameters of 15 inches or larger). The Project Sponsor would be required to plant 12 trees with a value equal to the appraised value of the removed heritage trees, subject to approval by the City Arborist regarding the locations, sizes, and the number of replacement trees.[7] The Project site would have 113 trees (including 12 street trees) and two preserved heritage trees, for a total of 115 trees.

Approximately 92.7 percent (166,296 sf) of the existing Project site is covered with impervious surfaces, consisting of buildings, parking lots, and driveway aisles. Approximately 7.3 percent (13,077 sf) of the existing Project site is covered with landscaping and other pervious surfaces. Implementation of the Proposed Project would reduce the total impervious surface area to approximately 152,733 sf, or about 85.1 percent of the Project site. The pervious surface area would increase from 13,077 sf to 26,640 sf, or 14.9 percent of the Project site, for a net increase in pervious area of 13,563 sf. This information is summarized in Table 2-5 (Impervious/Pervious Area Summary).

Hardscape would comprise concrete paving, decomposed granite paving, and concrete pavers. The landscaped area would include a flow-through planter, bioretention area, landscape planter, and five self-treating pervious areas around the proposed building and surface parking lots. The bioretention areas would treat runoff from the proposed impervious areas. Flow-through planters, landscape planters, and self-treating pervious areas would treat rainwater that falls on them directly by retaining and infiltrating it, up to the design rainfall depth. The landscape plans for Parcels 1 and 2 are shown in Figures 2-4 and 2-5. Table 2-5 summarizes the existing and proposed impervious and pervious areas at the Project site.

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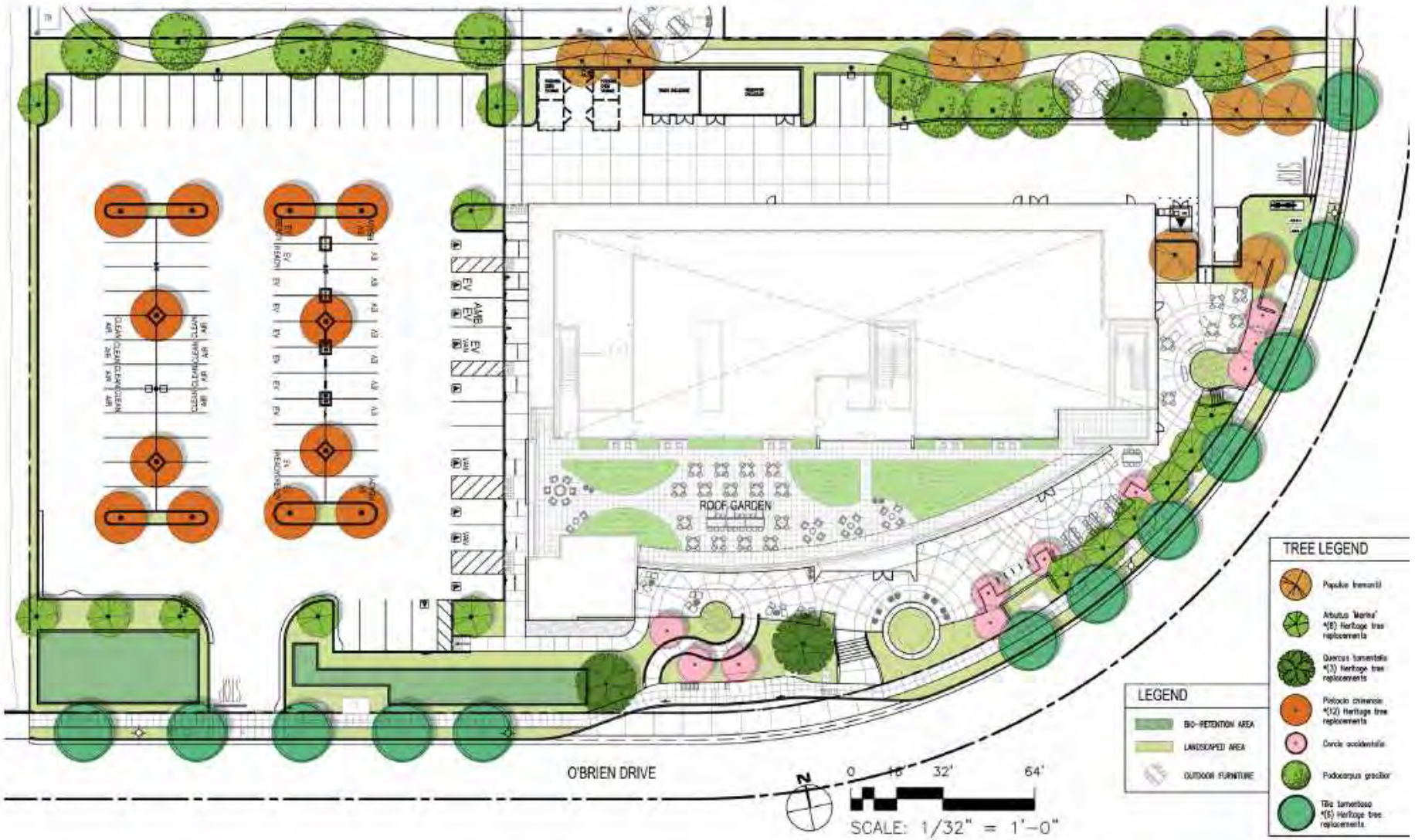
6 Kimley Horn. 2021. *Transportation Demand Management Memorandum for 1125 O'Brien Drive*. April 2.

7 City of Menlo Park. 2020. *Menlo Park Municipal Cod*e. Section 13.24.020(5). July 1. Available: https://menlopark.gov/Government/Departments/Public-Works/Maintenance-Division/Trees/Heritage-tree-definition-and-ordinance. Accessed: February 21, 2023.



Source: Tarlton, 2022.

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Figure 2.4
Proposed Landscape Plan for Parcel 1
1125 O'Brien Drive Project

Source: Tarlton, 2022.

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Figure 2.5
Proposed Landscape Plan for Parcel 2
1125 O'Brien Drive Project

Table 2-5. Impervious/Pervious Area Summary

	Parcel 1	Parcel 2	Total
Existing			
Pervious Area	7,915 sf	5,162 sf	13,077 sf (7.3%)
Impervious Area	98,440 sf[a]	67,856 sf	166,296 sf (92.7%)
Total	106,355 sf	73,018 sf	179,373 sf
Proposed			
Pervious Area	16,640 sf	10,000 sf	26,640 sf (14.9%)
Impervious Area	89,715 sf[a]	63,018 sf	152,733 sf (85.1%)
Total	106,355 sf	73,018 sf	179,373 sf

Source: Tarlton Properties and DES Architects + Engineers, 2023.

Note:

a. The impervious surface area on Parcel 1 includes the existing 10,495 sf drainage ditch. The drainage ditch would not be altered as a result of the Proposed Project.

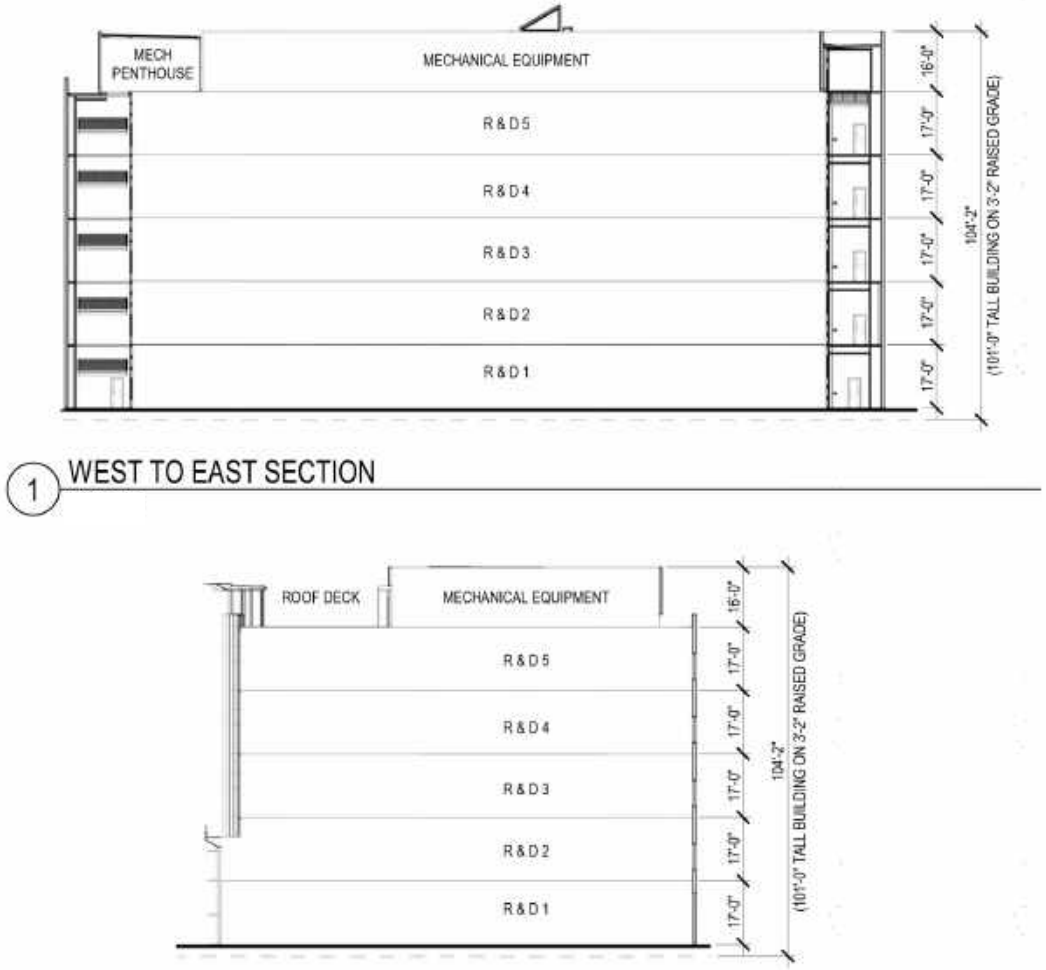
The Proposed Project includes approximately 39,666 sf of (ground level) open space or about 22 percent of the Project area. Approximately 20,873 sf of this area is considered to be public open space. The public open space is concentrated along the street frontage, plaza area, and along the pathway connecting to the SFPUC right of way. This area consists of about 53 percent of the required open space and is landscaped with berms, trees, bioretention areas, and California-native vegetation. The private open space proposed as part of the Proposed Project includes a 6,600 sf roof deck with landscaped areas and seating. Furnishings at the public space adjacent to the proposed café may include trash receptacles as well as benches and other outdoor furniture along onsite walkways.

Building Features and Lighting

The proposed five-story, steel-frame building would be designed to house R&D/life science tenants and would include a ground-floor café. The curved south façade of the R&D structure would be composed of full-height, performance-tinted, bird-friendly insulated glazing in an aluminum-frame curtain wall. The balance of the building would be clad in glass-fiber reinforced-concrete panels, formed metal panels, and aluminum-frame windows with tinted insulated glazing. A two-story entry lobby would be at the center of the south elevation of the R&D facility. In addition, a café would be on the main level, adjacent to the lobby. Figure 2-6 shows the building sections, and Figure 2-7 depicts the streetscape elevations.

Roof-mounted mechanical equipment would be concealed behind a formed metal screen. The southern portion of the roof would have a paved deck with seating areas and landscaping. Lighting would be provided at the Project site by roadway/driveway lights, area lights, bollards, and in-ground lights. All of the Project site's lighting would be LED fixtures.

The proposed building would be designed to account for flooding and/or sea-level rise due to the proximity of the Bay. The Federal Emergency Management Agency's base flood elevation at the Project site is 12.8 feet above mean sea level. The first floor of the building would be at an elevation of 14.8 feet above mean sea level, which would be approximately 2 feet above the base flood elevation, consistent with the requirements of ConnectMenlo.



Source: Tarlton, 2022.

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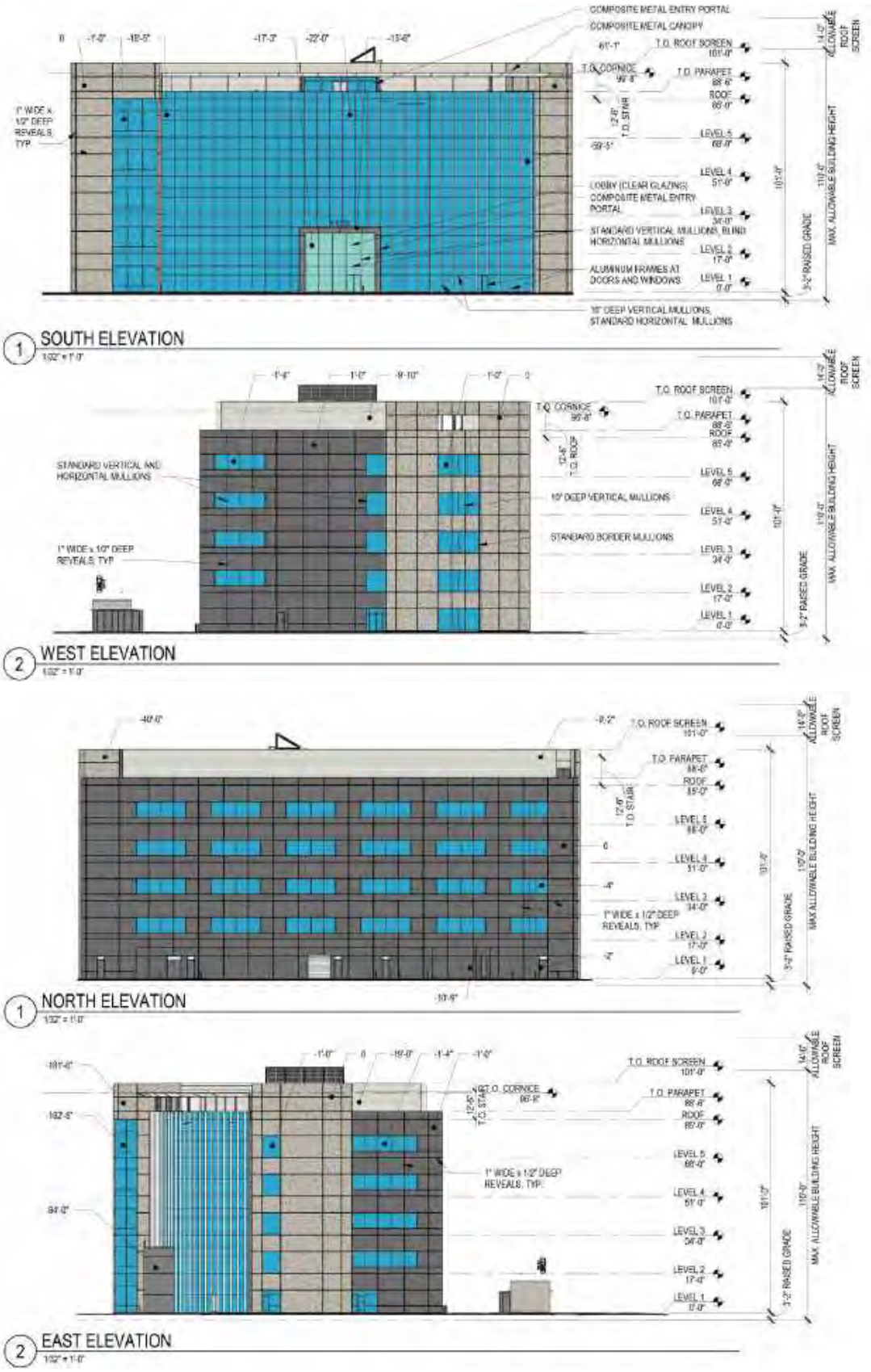
Figure 2-6
1125 O'Brien Building Sections
1125 O'Brien Drive Project



Source: Tarlton, 2022.

Graphics ... 104396 (02-24-2023) JC

Figure 2-7
1125 O'Brien Building Elevations
1125 O'Brien Drive Project

The Proposed Project would seek a rating of LEED Gold, or equivalent, for Building Design and Construction, consistent with the City's Zoning Ordinance and requirement for bonus-level development. Strategies for compliance with LEED standards include onsite amenities that can be shared with all campus buildings, shuttle service to Caltrain, carpooling, onsite car-share and bike-share programs, a stormwater management plan, and an onsite recycling program. In addition, 100 percent of the electricity currently used by the campus is purchased through the Peninsula Clean Energy (PCE) program; the Proposed Project would continue this practice, as described in more detail below.

Activity/Employment

It is estimated that approximately 143 employees currently occupy the buildings at the Project site.[8] In general, biotech and R&D uses require fewer employees than office buildings of the same size. Although administrative areas within biotech and R&D companies generally have an employee density similar to that of a corporate office, research and laboratory spaces have lower employee densities because the same employees often use both spaces (i.e., researchers carry out research in laboratory space and also have an office). Therefore, R&D companies have lower employee densities overall than equivalent office spaces. Anticipated ratios for future building occupants range from 30 to 45 percent for office uses and 55 to 70 percent for R&D uses. When fully occupied, it is estimated that approximately 328 employees would occupy the proposed building,[9] a net increase of approximately 185.

Utilities

Onsite utilities would be served by energy (gas and electric), domestic water, wastewater, and storm drain facilities and designed in accordance with applicable codes and current engineering practices.

The Proposed Project would meet 100 percent of its energy demand (gas and electric) consistent with the requirements of Menlo Park Municipal Code Section 16.44.130, which provides for any combination of the following measures: onsite energy generation, purchase of 100 percent renewable electricity through PCE or Pacific Gas and Electric Company (PG&E) in an amount equal to the annual energy demand of the Proposed Project, purchase and installation of local renewable energy generation in the city in an amount equal to the annual energy demand of the Proposed Project, 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.

PG&E would provide gas and electrical power for proposed facilities. Electric power would be distributed by PG&E but purchased through PCE. Existing gas and electric lines in the vicinity would continue to serve the Project site. City reach codes restrict the use of non-electric fuel sources for energy in new buildings but include an exception for non-residential buildings containing a laboratory space; such areas may contain a non-electric space conditioning system, provided that an all-electric system would not be cost effective or feasible, as verified by a third party.[10] The Project Sponsor is requesting an exception (Ordinance No. 1057) for gas space heating/conditioning because of the building's scientific

[8] Current employee estimate provided by the Project Sponsor, based on a conservative generation rate of one employee per 400 gsf for existing R&D space and one employee per 500 gsf for existing warehouse space.

[9] Employee estimate provided by the Project Sponsor, based on a conservative generation rate of one employee per 400 gsf.

[10] In 2019, the City of Menlo Park adopted local amendments to the California Building Standards Code that require electricity to be the energy source for new buildings. This ordinance (Menlo Park Municipal Code Section 12.16) applies only to newly constructed buildings (i.e., it does not apply to building additions or remodels) and provides a mechanism for exceptions to this requirement.

laboratory uses (see Appendix 3.2 for further information regarding the Proposed Project's natural gas needs). The exception for space conditioning would be subject to review and approval by the City prior to building permit issuance. The Proposed Project would be required to install a solar photovoltaic system. The Project design includes such a system.

Telecommunication Facilities. There are numerous telecommunications providers in Menlo Park that offer DSL, wireless, cable, fiber, and copper services, including AT&T, XFINITY from Comcast, MegaPath, Etheric Networks, and CenturyLink Business, to residents and businesses in the city. The Project site receives services from AT&T, EarthLink, and XFINITY.[11] Telecommunications facilities include underground conduits and overhead cables throughout the vicinity of the Project site.

Telecommunication lines may need to be extended or relocated as a result of the Proposed Project. The installation of new or expanded telecommunication lines on the Project site would require excavation, trenching, soil movement, and other activities that are typical during the construction of development projects. These construction impacts are discussed in the appropriate topical sections of this document, as well as the Initial Study (see Appendix 1-1), as part of the assessment of overall Project impacts. However, no offsite telecommunication facilities would need to be constructed or expanded as a result of the Proposed Project.

Domestic Water. Onsite water lines would connect to Menlo Park Municipal Water facilities. An existing 10-inch water main operated by Menlo Park Municipal Water runs along the O'Brien Drive frontage between the curb and property line. Multiple service connections to the existing buildings would be removed, and separate connections would be provided for fire service and domestic water. The Proposed Project would include water-conserving plant material and irrigation systems, in compliance with the Water-Efficient Landscape Ordinance.

The existing 10-inch water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property have been found to be inadequate. A supplemental water supply assessment indicated that 12-inch mains would be required to provide adequate fire flows in the area. As a result, the existing water mains need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and the vicinity. The approved 1350 Adams Court project was identified as the first pending development that would require the upsized water mains; therefore, the 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts (primarily in Chapter 3, *Environmental Impact Analysis*, and Chapter 5, *Waterline Analysis*). The Planning Commission approved the 1350 Adams Court project and certified the EIR on September 12, 2022.[12]

Although preliminary work already has begun on the 1350 Adams Court project (demolition, grading), it is possible that construction of that project might be delayed, requiring the Proposed Project to upgrade the water mains. (The Proposed Project may only require upgrading the water main along O'Brien Drive.) The CEQA analysis of water main construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the need to upgrade the water mains as part of the Proposed Project, are incorporated into this EIR by reference, pursuant to Public

[11] BroadbandNow. n.d. *Internet Providers in Menlo Park, California*. Available: https://broadbandnow.com/California/Menlo-Park#show=business. Accessed: February 3, 2021.

[12] City of Menlo Park. 2022. *Draft Environmental Impact Report Released* for 1350 Adams Court. Available: https://menlopark.gov/News-articles/City-news/20220404-Draft-environmental-impact-report-released-for-1350-Adams-Court. Accessed: January 12, 2023.

Resources Code Section 21061 and CEQA Guidelines Section 15150, which authorize incorporation by reference of information or data which is a matter of public record or generally available to the public. As provided in CEQA Guidelines Section 15150, where an EIR uses incorporation by reference, the incorporated part of the reference document shall be briefly summarized or described. Where information from the 1350 Adams Court EIR is incorporated into this EIR, the incorporated information is briefly summarized or described in the corresponding topic sections in Chapter 3, *Environmental Impact Analysis* and Chapter 5, *Waterline Analysis.* This EIR does not reevaluate the waterline work, potential impacts or required mitigation, it only summaries the information and conclusions already adopted by the City in the previously certified 1350 Adams Court project EIR. The Draft Environmental Impact Report for the 1350 Adams Court Project is located here: https://menlopark.gov/Government/Departments/Community-Development/Projects/ Under-review/1350-Adams-Court.

Construction of the water main upgrades will have the same environmental effects and require the same mitigation measures whether it occurs as part of the 1350 Adams Court Project or the 1125 O'Brien Drive Project, therefore making incorporation by reference and reliance on the 1350 Adams Court EIR appropriate for this EIR. If the Project Sponsor is required to construct the water main upgrade(s), the water main upgrade(s) would be constructed prior to commencing construction of 1125 O'Brien Drive, as ensured through conditions of approval for the 1125 O'Brien Drive project.

Wastewater. The sanitary sewer system in this area of the city is owned and operated by the West Bay Sanitary District (WBSD). An existing 18-inch sanitary sewer runs under O'Brien Drive. A proposed 6-inch sanitary sewer line on the north side of the proposed building would connect to this 18-inch sanitary sewer. A typical WBSD control maintenance hole with a flow meter for recording flows would also be installed, providing an access point for sampling wastewater just before the connection point. Wastewater from the Project site would ultimately be discharged to the Silicon Valley Clean Water pump station in Redwood City.

Storm Drainage. Stormwater runoff from the Project site currently flows to three different outlets. A small portion of it drains into the open drainage ditch along the west property line. Some of the Project site drains to an existing valley gutter that extends into the adjacent site to the north, then ultimately outlets to O'Brien Drive. Stormwater runoff from the remainder of the Project site flows into onsite catch basins and area drains that connect to a bubble-up structure within O'Brien Drive. The bubble-up structure and the valley gutter would be removed as part of the Proposed Project. Runoff from the Project site would be collected and treated onsite before being released into a proposed 18-inch storm drain that would extend approximately 115 feet south of Casey Court to the Project site's storm drain outlet pipe. Stormwater treatment measures, in compliance with state and County of San Mateo requirements, would be implemented on the Project site. Because the post-construction impervious area would be less than the pre-construction impervious area, stormwater detention would not need to be provided on the Project site.

Recycled Water. There is currently no recycled water service to the Project site. At some point in the future, recycled water service may be installed within O'Brien Drive. The proposed building would be plumbed for a future connection, along with reserve space for a future backflow preventer device. In addition, per Menlo Park Municipal Code Section 16.44.130(3)(D), although recycled water is not proposed for the Proposed Project, the Proposed Project would be dual plumbed with purple pipe for recycled water when it becomes available in the Bayfront Area.

2.4 Project Construction

The proposed construction methods are considered conceptual and subject to review and approval by the City. For the purposes of this environmental document, the analysis considers the construction plan described below.

Construction Schedule and Phasing

The Proposed Project would consist of six phases over approximately 16 months.[13] The six construction phases are shown below. Some of these work phases would overlap.

- Phase 1: Demolition – 30 days
- Phase 2: Rough Grade/Underground/Foundation/Slab-on-Grade – 139 days
- Phase 3: R&D Building Steel Structure – 117 days
- Phase 4: Building Skin – 126 days
- Phase 5: Building Warm Shell – 130 days
- Phase 6: Sitework – 100 days

Standard construction work hours would be 7:00 a.m. to 3:30 p.m. Monday through Friday. It is anticipated that construction of the Proposed Project would not involve nighttime construction or pile driving. The Proposed Project would involve drilled piles.

As stated in the 1350 Adams Court EIR, construction for the waterline would include the following phases: demolition, utility installation, grading, pavement installation, final pavement, signage, and striping. Construction for the O'Brien Drive waterline would last approximately 3 months, while construction for the Adams Court waterline would last approximately 2 months.

Construction Grading, Spoils and Debris

The Proposed Project would require soil excavation and the removal of trees. The Proposed Project's excavation depths would vary from 3 to 9 feet below the finished floor for the foundations, pile caps, and elevator pits. The proposed excavation would produce approximately 7,000 cubic yards (cy) of excavated material. All excavated material would be exported offsite; none would be used as backfill material or grading material in landscaped areas within the Project site. Instead, approximately 17,000 cy of soil would be imported. In addition, debris from building materials associated with the approximately 59,866 gsf existing building and 10,437-sf surface parking lot would be generated during the demolition phase on the Project site; approximately 4,400 cy of waste material would be generated during demolition and construction. Foundation piles are anticipated to be drilled to a depth of 85 to 90 feet.

[13] Construction of the Proposed Project would commence after the project is approved and demolition, grading, and construction permits are secured. The air quality analysis in Section 3.2, *Air Quality* models air emissions based on a construction start date of March 2022 and a completion date of June 2023. This was the anticipated construction schedule at the time the Proposed Project's Notice of Preparation (NOP) was released. Equipment and vehicle emission factors decline as a function of time due to increasingly stringent air emission standards. Therefore, the analysis in this EIR is conservative, and actual air pollutant emissions during construction would likely be lower than the modeled levels.

During construction, the Project Sponsor would implement a waste diversion and recycling program to meet LEED and City waste diversion requirements. One portion of this plan would involve recycling asphalt and concrete and reusing it onsite where possible and where allowed by the appropriate design agents and consultants. During construction, multiple debris boxes would be used onsite for sorting and separating to achieve the highest diversion rate possible. Site spoils and excavation materials would be hauled offsite to the nearest processing facility. The subcontracted company used for recycling and separating waste materials would provide the appropriate documentation to meet the aforementioned requirements.

Construction of the Proposed Project would require disposal of exported materials at a permitted landfill. All soil and debris, including contaminated soil, would be off-hauled to the Dumbarton Landfill or a similar appropriate facility. The haul route could involve the use of O'Brien Drive, Willow Road, and/or University Avenue to access SR 84. The number of truck trips required to dispose of demolition material and excavated soil would range from 600 to 1,400 during the site grading phase and foundation construction phase. The number of truck trips required to dispose of excavated material would be approximately 30 per day (assuming 9 cy per truck).[14] The import of 17,000 cy of material to elevate the building pad would require an estimated 1,900 trips spread over about three months (assuming 9 cy per truck with a maximum of 30 trips per day). Issuance of a haul permit by the City will be required prior to the export or import of any material.

As stated in the 1350 Adams Court EIR, for the upgrades to waterline under Adams Court, the 1350 Adams Court project site, Adams Drive and O'Brien Drive, the proposed excavation would result in the export of approximately 1,250 cy of soil during Phase 1, including approximately 193 cy for demolition and 1,057 cy for utility installation, as well as approximately 311 cy during Phase 3 for pavement installation. Approximately 1,057 cy of soil would be imported for Phase 1, and approximately 311 cy would be imported for Phase 3.

Construction Equipment and Staging

Typical construction equipment would be used during construction of the Proposed Project, including dump trucks, end-dump trailers, cranes, forklifts, scissor lifts, lifting equipment, excavators, trenchers, graders, compactors, backhoes, support vehicles, a drill rig, and concrete ready-mix delivery trucks. Potential construction laydown and staging areas would be located west of the building, in the vicinity of the proposed parking lot on Parcel 1.

Construction Employment

The size of the construction workforce would vary during the different phases of construction. The maximum number of construction workers required for construction would be 60 during the warm shell phase (Phase 5). Parking for construction workers would be provided onsite, not on public streets.

[14] Certain discarded materials may be able to use 40-cubic-yard dumpster trucks, which would reduce the number of overall truck trips; however, this document conservatively estimates the number of trips per day using 9-cubic-yard trucks.

2.5 Project Approvals

The following City discretionary approvals would be required for Project development:

- **Use Permit.** The Project Sponsor would need a use permit from the Planning Commission, per Menlo Park Municipal Code Chapter 16.82, for the bonus-level development.
- **Architectural Control.** Per Menlo Park Municipal Code Chapter 16.68, the Project Sponsor would be required to obtain an architectural control review and approval of the specific building design from the Planning Commission.
- **Lot Merger**. Per Menlo Park Municipal Code Chapter 15.30, the Project Sponsor would apply to merge three parcels (APNs 055-433-320, 055-433-330, and 055-433-350) into a single legal parcel to create the Building Lot.
- **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.
- **Below-Market-Rate Housing In-Lieu Fee**. A below-market-rate housing in-lieu fee would be required, per Menlo Park Municipal Code Section 16.96.030, for the payment of in-lieu fees associated with the City's Below-Market-Rate Housing Program.
- **Environmental Review**. Certification of a Final EIR will be required for Project approval. This will include a mitigation monitoring and reporting program (MMRP) and a Statement of Overriding Considerations (to the extent the EIR discloses significant impacts that cannot be mitigated to less-than-significant levels).

As part of the Project review process conducted by the City, a fiscal impact analysis will be prepared. In addition, an appraisal will identify the required value of the community amenity.

Reviews/Approvals by Responsible Agencies

Reviews and approvals by other agencies that may be needed for the Proposed Project to proceed are also identified. Some of these agencies will need to approve certain parts of the Proposed Project prior to full implementation, but their approval is not required for EIR certification. Responsible agencies will rely on this EIR for CEQA support of any discretionary approvals.

- **Bay Area Air Quality Management District** – Approval of permits for onsite generators, boilers, and other utility equipment requiring permits.
- **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** – Approval of a National Pollutant Discharge Elimination System permit for stormwater discharges.
- **Native American Heritage Commission** – Review of cultural resources in the area or on the Project site.
- **City/County Association of Governments** – Review of potential effects on Routes of Regional Significance and the proposed TDM program.
- **San Mateo County Transportation Authority** – Review of potential effects on public transit.

- **Menlo Park Fire Protection District** – Approval of proposed fire prevention systems, onsite generators, and emergency vehicle access.
- **San Mateo County Environmental Health Division** – Approval of food service functions and onsite generators.
- **San Francisco Public Utilities Commission** – Review and approval of any potential work within the Hetch Hetchy right-of-way and related easements.
- **West Bay Sanitary District** – Approval of wastewater hookups.

Chapter 3
Environmental Impact Analysis

This chapter presents an analysis of the potential impacts of the 1125 O'Brien Drive Project (Proposed Project or Project) on existing environmental conditions. The environmental analysis has been prepared in accordance with the California Environmental Quality Act (CEQA), as amended (Public Resources Code Section 21000, et seq.), and the CEQA Guidelines.

CEQA Methodology

CEQA Guidelines Section 15151 provides guidance for preparation of an adequate environmental impact report (EIR).

- An EIR should be prepared with an adequate degree of analysis to provide decision-makers with the information needed to make a decision that intelligently takes account of the environmental consequences.
- An evaluation of the environmental impacts of a project need not be exhaustive, but the adequacy of an EIR is to be reviewed in light of what is reasonably feasible.
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.
- The courts have not looked for perfection but for adequacy, completeness, and a good-faith effort at full disclosure.

In practice, this guidance suggests that EIR preparers should adopt a reasonable methodology upon which to estimate impacts and make reasonable assumptions using the best information reasonably available.

As discussed in Chapter 1, *Introduction*, because the Proposed Project's location and development parameters are consistent with the General Plan and M-2 Area Zoning Update (ConnectMenlo), the ConnectMenlo Program EIR serves as the environmental analysis for some effects of the Proposed Project (e.g., is incorporated by reference, pursuant to Sections 15150, 15130, and 15168). Section 15168(d) of the CEQA Guidelines provides for simplifying 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, environmental analysis for the Proposed Project relies on the ConnectMenlo EIR where applicable.

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 1-1) were prepared in accordance with the terms of the 2017 settlement agreement, which allows streamlining 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.

Determination of Significance

In accordance with Section 15022(a) of the CEQA Guidelines, the City of Menlo Park (City) uses the impact significance criteria designated by CEQA and the CEQA Guidelines (Appendix G). These criteria, as well as City-adopted significance criteria for traffic impacts, are used to evaluate Project impacts throughout this document. The criteria are listed at the beginning of the *Environmental Impacts* subsection under "Thresholds of Significance" throughout this chapter.

In determining whether a project's impacts are significant, an EIR ordinarily compares the environmental conditions associated with a proposed project with existing environmental conditions, which are referred to as the "baseline" for the impact analysis. This EIR compares the potential environmental impacts of the Proposed Project with the baseline environmental conditions that were in existence at the time the Notice of Preparation (NOP) was published (July 30, 2021).

In this focused EIR, the following criteria apply to the impact topics assessed in the Draft EIR. For impacts initially identified as being potentially significant, the Draft EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. If the mitigation measures would reduce the impact to a less-than-significant level successfully, this is stated in the Draft EIR. However, if the mitigation measures would not diminish the effects to less-than-significant levels, then the Draft EIR classifies the impacts, if any, as "significant and unavoidable (SU)." Significance determinations are indicated in ***bold, italicized*** text.

- ***Significant and Unavoidable (SU)*** is the conclusion if feasible mitigation measures would not diminish the effects to less-than-significant levels.
- ***Less than Significant with Mitigation (LTS/M)*** is the conclusion when impacts would be significant but implementation of Project-specific mitigation measures and/or mitigation measures from the ConnectMenlo EIR would reduce the impacts to a less-than-significant level.
- ***Less-than-Significant (LTS)*** impacts are effects that are noticeable but do not exceed established or defined thresholds or already are mitigated below such thresholds.
- ***No Impact (NI)*** denotes situations in which there is no adverse effect on the environment.

Mitigation Measures

Mitigation measures identified in this Draft EIR, as developed during the analysis, are designed to reduce, minimize, or avoid potential environmental impacts associated with the Proposed Project. According to CEQA Guidelines Section 15126.4:

> The discussion of mitigation measures shall distinguish between measures that are proposed by the project proponents to be included in the project and other measures proposed by the lead, responsible, or trustee agency or other persons that are not included but the agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.

In this Draft EIR, mitigation measures are provided immediately following each potentially significant impact. The mitigation measures are numbered to correspond to the impacts they address. For example, Mitigation Measure NOI-2.1 refers to the first mitigation measure for Impact NOI-2 in the noise section.

The Proposed Project will be required to comply with all applicable mitigation measures identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP), which is a requirement of any proposed development project in Menlo Park. In addition, the Initial Study identified a number of potentially significant impacts as well as ConnectMenlo mitigation measures to reduce each impact to less than significant (refer to Appendix 1-1). Significance determinations are based on compliance with the ConnectMenlo mitigation measures, which are already included in the existing, enforceable MMRP prepared for the ConnectMenlo Final EIR, as well as the Project-specific mitigation measures identified in this EIR. All impacts identified as potentially significant in the Initial Study are described in this EIR in the appropriate topic section, along with the Project-specific mitigation measures and applicable ConnectMenlo mitigation measures. All required mitigation measures identified in the *Executive Summary* will be included in the MMRP that will be adopted by the City if the Proposed Project is approved.

If the Proposed Project is approved by the Menlo Park Planning Commission, then the MMRP must be adopted. Pursuant to CEQA Guidelines Section 15097, an MMRP is a mechanism for monitoring and reporting revisions to a project or conditions of approval that a public agency has required as mitigation to lessen or avoid a significant environmental effect. The City can conduct the reporting or monitoring, or it can delegate the responsibilities to another public agency or private entity that accepts the delegation. The MMRP for the Proposed Project will identify the specific monitoring actions that will be done, the various City departments or other entities that will oversee completion of the mitigation, and a timeline for implementation of the measures. The responsible departments will ensure that due diligence is performed during implementation of the measures. Implementation of the mitigation measures in the MMRP will reduce the severity of the significant impacts identified in this EIR or eliminate the impacts. The MMRP for the Proposed Project will incorporate the applicable mitigation measures from both the ConnectMenlo EIR and waterline-related mitigation measures from the 1350 Adams Court EIR if the 1125 O'Brien project is constructed first, as appropriate.

Issues Addressed in the Draft EIR for the Proposed Project

Sections 3.1 through 3.7 of this chapter describe the environmental setting of the Proposed Project, as evaluated in the EIR, and the impacts that are expected to result from implementation of the Proposed Project. Mitigation Measures are proposed to reduce potential impacts, where appropriate. The environmental issues are addressed in the following sections of this chapter:

- Section 3.1, *Transportation* (TRA)
- Section 3.2, *Air Quality* (except conflicts with plans and odors) (AQ)
- Section 3.3, *Greenhouse Gas Emissions* (GHG)
- Section 3.4, *Noise* (except airport land use plans) (NOI)
- Section 3.5, *Population and Housing* (except displacement of people or housing) (POP)
- Section 3.6, *Cultural* (except historical resources and human remains) *and Tribal Cultural Resources* (CUL)
- Section 3.7, *Biological Resources* (except riparian habitat or other sensitive natural communities, wetlands, conflicts with local policies, or conflicts with habitat conservation plans and natural community conservation plans) (BIO)

The preliminary analysis provided in the Initial Study (Appendix 1-1) determined that development of the Proposed Project would not result in significant impacts related to the following environmental topics: aesthetics, agricultural and forestry resources, air quality (conflicts with plans and odors), biological resources (riparian habitat or other sensitive natural communities, wetlands, conflicts with local policies, or conflicts with habitat conservation plans and natural community conservation plans), cultural resources (historical resources), energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise (airport land use plans), population and housing (displacement of people or housing), public services, recreation, and utilities and service systems. Consequently, these issues are not examined further in this EIR but are discussed briefly in Chapter 4, Section 4.3, *Effects Found Not to Be Significant.* In addition, the Initial Study determined that impacts on human remains would be less than significant with application of mitigation from the ConnectMenlo EIR. Because this impact has adequately been addressed in the Initial Study, no additional analysis is included in this EIR, though the related ConnectMenlo EIR mitigation measures identified in the Initial Study will be included in the MMRP for the Proposed Project.

Consistency with the City's land use and planning policies, including the City General Plan and Zoning Ordinance, is discussed in Section XI, *Land Use and Planning*, of the Initial Study (Appendix 1-1). It should be noted that, according to CEQA, policy conflicts do not constitute a significant environmental impact in and of themselves. Policy conflicts are considered to be an environmental impact only when the policies themselves were adopted for the purpose of avoiding or mitigating environmental impacts, and conflicts would result in physical environmental impacts. Zoning compliance and other non-CEQA policy considerations (including inconsistencies) will be further evaluated by City decision-makers in addition to the project's Draft EIR analysis when considering approval of the Proposed Project.

As stated above, this EIR compares the potential environmental impacts of the Proposed Project with the baseline environmental conditions that were in existence at the time the NOP was published (July 2021). In some cases, in accordance with CEQA Guidelines Section 15125(a), it is appropriate to use a different baseline to identify project impacts to account for circumstances that can change during the course of the environmental review, such as changes since publication of the NOP or completion of the Initial Study. However, even though time has passed since issuance of the NOP and Initial Study for the Proposed Project, circumstances related to existing conditions at the Project site, as well as the Proposed Project overall, have not changed so as to require using a different baseline or otherwise altering the conclusions of the Initial Study. Therefore, the conclusions reached in the Initial Study are still applicable, and further analysis of the environmental topics that were scoped out in the Initial Study is not required.

Approach to Cumulative Impacts

In addition to the evaluation of project-specific impacts, Section 15130 of the CEQA Guidelines requires an evaluation of cumulative impacts. CEQA defines *cumulative* as "two or more individual effects that, when considered together, are considerable or can compound to increase other environmental impacts." When a significant cumulative impact is identified, Section 15130 of the CEQA Guidelines requires an EIR to evaluate whether the project's incremental effect is cumulatively considerable. *Cumulatively considerable* means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. These impacts can result from a combination of a proposed project together with other projects, thereby causing related impacts. The cumulative impact of several projects is the change in the environment that results from the incremental impact of one project when added to other closely related past, present, and reasonably foreseeable probable future projects.

The methodology for assessing cumulative impacts typically varies, depending on the specific topic being analyzed. CEQA requires cumulative impacts to be analyzed with use of either a list of past, present, and probable future projects with related or cumulative impacts or a summary of the projections contained in an adopted local, regional, or statewide plan or related planning document that describes or evaluates the conditions that contribute to the cumulative effect. This analysis employs both the list-based approach and projections-based approach, depending on which approach best suits the resource topic being analyzed.

The cumulative land use assumptions used in this Draft EIR include projections by the Association of Bay Area Governments and the Metropolitan Transportation Commission for 2040, with refinements to reflect development projects that are under construction, approved, or pending in Menlo Park and East Palo Alto. In June 2016, in response to a water shortage, East Palo Alto adopted a moratorium that prohibited new or expanded water connections for a period of 2 years.[1] The moratorium effectively halted new development within East Palo Alto's jurisdictional boundary; for that reason, the ConnectMenlo EIR did not consider East Palo Alto projects in the cumulative scenario. In 2018, the City of Palo Alto entered into an agreement with the City of East Palo Alto to permanently transfer 1.5 million gallons of water per day.[2] Because of the increased water supply, the moratorium was lifted, and East Palo Alto was able to proceed with development applications. For this reason, the cumulative scenario for the Proposed Project considers development projects that are under construction, approved, or pending in both Menlo Park and East Palo Alto.

The cumulative land use assumptions considered included changes to the City's zoning map and the rezoning of specific properties to reflect City General Plan updates, including the new land uses within the Bayfront Area of Menlo Park. Specifically, ConnectMenlo identified new development potential in the Bayfront Area (i.e., up to 2.3 million gross square feet of non-residential space, 400 hotel rooms, 4,500 residential units, 11,570 residents, and 5,500 employees).[3] Buildout of future development is expected to occur over a 24-year buildout horizon (from approximately 2016 to 2040).[4] In addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario also includes the 123 Independence Drive Project. That project, which was not included in the ConnectMenlo cumulative analysis, includes 151 units above the maximum total number of unrestricted units studied in the ConnectMenlo EIR but within the total cap included in ConnectMenlo.

Throughout this Draft EIR, cumulative impacts are denoted by a "C" (e.g., Impact C-NOI-1). An analysis of cumulative impacts follows the impact evaluation and recommendation for mitigation measures in each section. An introductory statement that defines the cumulative context being analyzed for each respective section (e.g., the city, the San Francisco Bay Area Air Basin) is included at the beginning of each cumulative impact section. In some instances, an impact may be considered less than significant for the Proposed Project by itself but considered potentially significant in combination with development in the surrounding area.

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1 City of East Palo Alto. 2021a. *City Council Staff Report, Proposed Minimum Purchase Obligation, Transfer from the City of Mountain View to the City of East Palo Alto*. February 16, 2021.

2 City of Palo Alto. 2018. *City Council Staff Report, Approval of the City of Palo Alto's Addendum to the Negative Declaration Adopted by the City of East Palo Alto and Approval of an Agreement for the Permanent Transfer of a Portion of the City of Palo Alto's Individual Supply Guarantee to the City of East Palo Alto.* May 7, 2018.

3 The ConnectMenlo Final EIR included an evaluation of 4,500 residential units in the Bayfront Area, consisting of 3,000 unrestricted residential units and 1,500 corporate dormitory-style housing units on the Facebook East Campus (also known as the Classic Campus). The Final EIR is available at https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo.

4 Although the ConnectMenlo Final EIR assumed a buildout horizon of 2040, the maximum development potential may be reached sooner than anticipated. However, the ConnectMenlo Final EIR evaluated the maximum development potential that could occur at any given time 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.

The closely related past, present, and reasonably foreseeable probable future projects considered in this Draft EIR are depicted in Figure 3-1. Menlo Park projects are listed in Table 3-1 at the end of this section, and East Palo Alto projects are listed in Table 3-2. These are either projects for which the City has an application on file or projects that have been entitled but have not yet begun construction (i.e., at the time when the EIR analysis was initiated [September 2021] consistent with City policy). As shown, these projects include new residential, non-residential, and mixed-use projects. Some of these previously identified projects have been constructed. These completed projects would result in increases in current conditions. Refer to the appropriate discussion in each topic section for a further discussion of the cumulative assumptions relevant to each issue topic.

Organization of Impact Discussion Chapters

Each CEQA topic or environmental issue in this chapter is given its own section, with each containing the subsections listed below.

- **Environmental Setting**—describes the baseline conditions, including the environmental context and background. As discussed in Chapter 2, *Project Description*, the Project site includes Parcel 1, or the Building Lot (addressed as 1105, and 1135 and 1165 O'Brien Drive), and Parcel 2, or the Accessory Parking Lot (addressed as 1 Casey Court), in Menlo Park.
- **Regulatory Setting**—describes the federal, State of California, and local regulations relevant to the impact topic and applicable to construction and operation of the Proposed Project.
- **Environmental Impacts and Mitigation Measures**—presents a discussion of the potential impacts that could result from implementation of the Proposed Project. The section begins with the criteria of significance, which are the thresholds used to determine whether an impact is potentially significant. The latter part of this section presents the potential impacts of the Proposed Project and recommended mitigation measures, if necessary. As previously discussed in Chapter 1, *Introduction*, the analysis refers to, and tiers from, the ConnectMenlo EIR, where appropriate. The potential impacts of the Proposed Project are organized into separate categories, based on the criteria listed in each topical section. Cumulative impacts are also addressed.

Table 3-1. Cumulative Projects in the City of Menlo Park[a]

ID	Address	Type of Use	Size	Unit	Project Status as of September 2021
	Office/Retail/Commercial/Life Science/Etc.				
1	105–155 Constitution Drive—Phase 2 (Menlo Gateway)	Office	495,052	gsf	Temporarily Occupied
2	1010–1026 Alma Street	Office Retail	25,156 324	gsf gsf	Completed
3	301–309 Constitution Drive (Facebook Expansion Project)	Office Office Hotel	450,400 512,000 200	gsf gsf rooms	Temporarily Occupied Completed/Occupied Proposed Construction
4	150 Jefferson Drive (TIDE Academy)	School School	40,000 400	gsf students	Completed (9th–11th Grade Only)
5	2111–2121 Sand Hill Road (Stanford)	Office	39,010	gsf	Proposed Construction
6	1430 O'Brien Drive	R&D Fitness (Campus Only) Café (Open to Public)	66,583 10,223 7,652	gsf gsf gsf	Completed/Occupied
7	40 Middlefield Road	Office	3,584	gsf	Proposed Construction
8	949 El Camino Real (Guild Theatre)	Live Entertainment Venue	10,854	gsf	Under Construction
9	1315 O'Brien Drive (1350 Adams Court)	R&D	260,400	gsf	Proposed Construction
10	162–164 Jefferson Drive (formerly 151 Commonwealth Drive)	Office	249,500	gsf	Proposed Construction
11	1704 El Camino Real (boutique hotel—former Hampton Inn)	Hotel	46	rooms	Proposed Construction
12	3723 Haven Avenue (Hotel Moxy)	Hotel	163	rooms	Proposed Construction
13	1075 O'Brien Drive and 20 Kelly Court	R&D/Office Restaurant	94,617 9,869	gsf gsf	Proposed Construction
	Mixed Use				
14	1283–1295 El Camino Real (1285 El Camino Real)	Residential Office/Retail/Service	15 1,997	du gsf	Completed/Occupied
15	650–660 Live Oak Avenue (Minkoff Group)	Office Residential	16,854 17	gsf du	Completed/Occupied

ID	Address	Type of Use	Size	Unit	Project Status as of September 2021
16	1275 El Camino Real	Residential Office Retail	3 9,334 603	du gsf gsf	Under Construction
17	500 El Camino Real (Stanford)	Residential Office Retail/Restaurant	215 142,840 10,286	du gsf gsf	Under Construction
18	1300 El Camino Real (Greenheart)	Residential Office Retail/Personal Service	183 203,000 18,600	du gsf gsf	Under Construction
19	1021 Evelyn Street (Old: 841 Menlo Avenue)	Residential Office	3 6,610	du gsf	Proposed Construction
20	1540 El Camino Real	Residential Office	27 40,759	du gsf	Under Construction
21	115 El Camino Real	Residential Retail/Personal Service/ Non-Medical Office	4 1,543	du gsf	Proposed Construction
22	506–556 Santa Cruz Avenue	Residential Retail/Café Office	7 4,901 17,877	du gsf gsf	Temporarily Occupied
23	1125 Merrill Street	Residential Office	2 4,366	du gsf	Temporarily Occupied
24	1350 Willow Road (Facebook Willow Village)	Residential Office Retail (Non-Office Commercial) Hotel	1,729 1,600,000 200,000 193	du gsf gsf rooms	Proposed Construction
25	111 Independence Drive	Residential Retail	105 746	du gsf	Proposed Construction
26	706–716 Santa Cruz Avenue	Residential Office Retail	4 23,454 12,035	du gsf gsf	Proposed Construction

ID	Address	Type of Use	Size	Unit	Project Status as of September 2021
27	201 El Camino Real	Residential Retail Restaurant	14 5,876 1,200	du gsf gsf	Proposed Construction
28	141 Jefferson Drive (Menlo Uptown)	Residential Retail/Non-Office Commercial	483 2,940	du gsf	Proposed Construction
29	110 Constitution Drive and 115 Independence Drive (Menlo Portal)	Residential Office Retail/Non-Office Commercial	335 34,819 1,608	du gsf gsf	Proposed Construction
30	301 Constitution Drive (Citizen M Hotel CDP amendment)	Hotel	40	rooms	Proposed Construction
31	165 Jefferson Drive	Residential Commercial	158 15,000	du gsf	Proposed Construction
	Residential				
32	133 Encinal Avenue (Roger Reynolds)	Residential	24	du	Completed/Occupied
33	409 Glenwood Avenue	Residential	7	du	Proposed Construction
34	555 Willow Road (former boarding house proposal; now, three MFR units)	Residential	3	du	Proposed Construction
35	1345 Willow Road	Residential	140	du	Proposed Construction
36	1162 El Camino Real	Residential	9	du	Proposed Construction
37	1500 El Camino Real	Residential	8	du	Proposed Construction
38	123 Independence Drive (Sobrato)[b]	Residential	151	du	Proposed Construction
Total Residential			**3,646**	**du**	
Total Non-Residential			**4,612,472**	**gsf**	
Total Hotel Rooms			**642**	**rooms**	
Total Students			**400**	**students**	

Source: City of Menlo Park. 2021. *List of Development Projects Based on Applications Received before or during September 2021*. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects. Accessed: February 21, 2023.

Notes: gsf = gross square feet, du= dwelling unit, R&D = research and development, CDP = conditional development permit; MFR = multi-family residential

a. The table includes pending and approved projects that have filed a complete development application for five or more net new residential units or 5,000 square feet of net new commercial space.

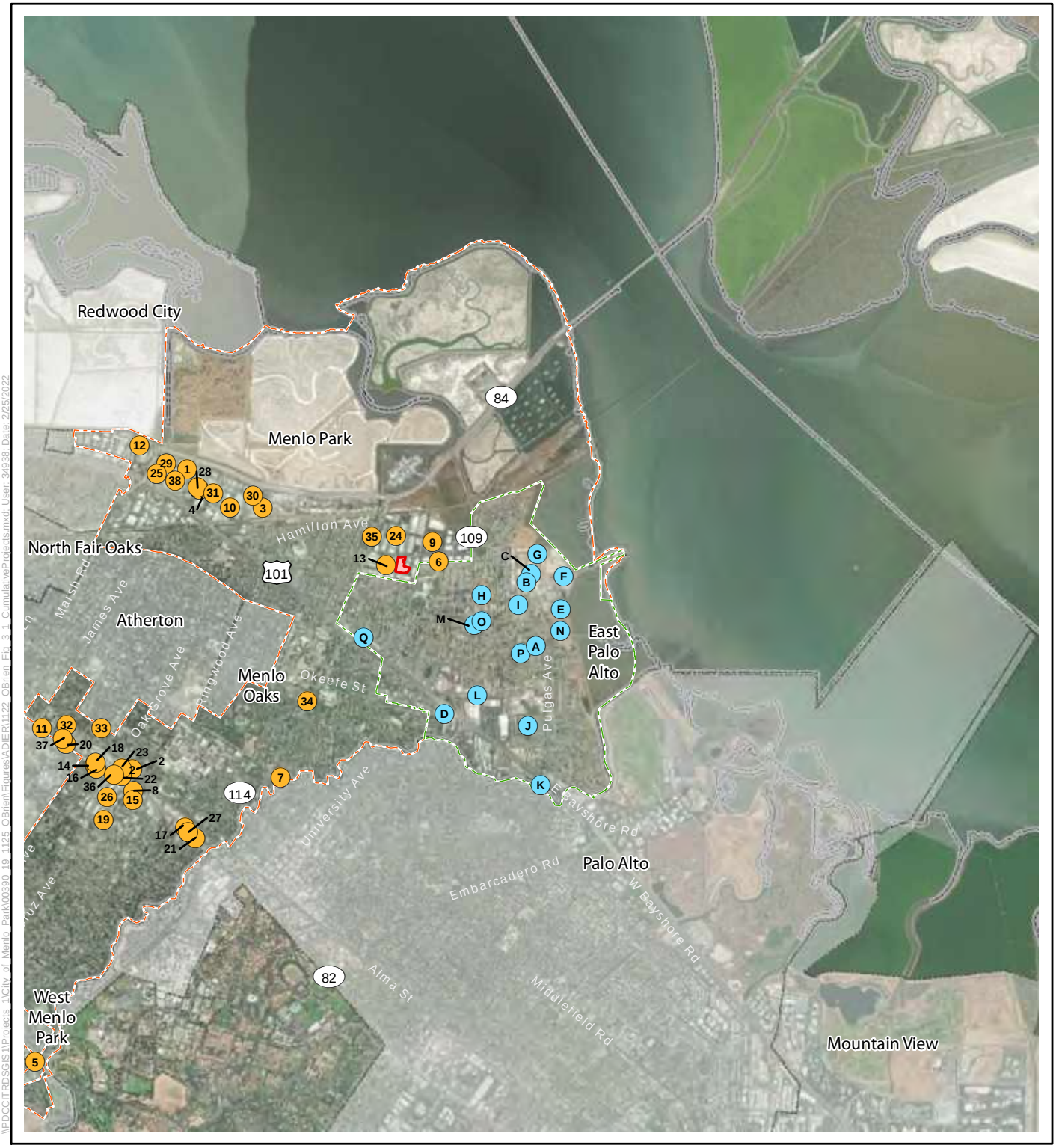
b. The property at 123 Independence Drive exceeds the number of residential units studied in the ConnectMenlo EIR but does not exceed the total cap on residential units. A full EIR is required; the 151 additional units should be considered in cumulative analyses for other projects in the city.

Table 3-2. Cumulative Projects in the City of East Palo Alto

ID	Address	Type of Use	Size	Unit	Project Status as of September 2021
	Office/Retail/Commercial/Life Science/Etc.				
A	1039 and 1063 Garden Street (KIPP School)	School	650 44	students employees	Approved (the project would use existing structures to operate a high school with a total of 650 students and up to 44 employees)
B	2519 Pulgas Avenue (The Sobrato Office Project)	Office	65,000	gsf	Under Review
C	2535 Pulgas Avenue (JobTrain Office Project)	Office R&D/Light Industrial	102,478 -4,500	gsf gsf	Under Review
D	2050 University Avenue (University Circle Phase II)	Office	180,000	gsf	Under Review
E	1990 Bay Road, 1175 Weeks Street, and 1250 Weeks Street (The Landing at EPA-Harvest Properties)	Office Retail/Commercial R&D/Light Industrial Other	879,979 23,521 -15,000 23,500	gsf gsf gsf gsf	Under Review
F	2020 Bay Road	Office Retail/Commercial Other	1,381,460 3,500 18,000	gsf gsf gsf	Under Review
	Mixed Use				
G	151 Tara Street, 264 Tara Street, 230 Demeter Street, 350 Demeter Street, and 391 Demeter Street (East Palo Alto Waterfront Project)	Office Retail/Commercial R&D/Light Industrial Other Residential	750,000 50,000 550,000 40,000 260	gsf gsf gsf gsf du	Under Review
H	1675 Bay Road (Four Corners)	Retail/Commercial R&D/Light Industrial Residential	40,000 500,000 180	gsf gsf du	Under Review
I	1804 Bay Road	Retail/Commercial Other Residential	1,903 5,936 75	gsf gsf du	Approved

ID	Address	Type of Use	Size	Unit	Project Status as of September 2021
	Residential				
J	1960 Tate Street (Woodland Park Euclid Improvements)	Residential	444	du	Under Review
K	1893 Woodland Avenue (Glory Mobile Home Park Conversion Impact Report)	Residential	-30	du	Approved
L	717 Donohoe Street	Residential	14	du	Under Review
M	2340 Cooley Avenue	Residential	6	du	Under Review
N	1201 Runnymeade Street	Residential	32	du	Approved
O	760 Weeks Street	Residential	10	du	Approved
P	990 Garden Street	Residential	7	du	Under Review
Q	807 East Bayshore Avenue	Residential	6	du	Under Review
Total Residential			**1,004**	**du**	
Total Non-Residential			**4,420,277**	**gsf**	
Total Students/Employees			**650** **44**	**Students** **Employees**	

Source: City of East Palo Alto. 2021b. *Cumulative Projects—East Palo Alto*.
Notes: gsf= gross square feet, du= dwelling units



Project Site
Menlo Park
East Palo Alto
County Boundary
East Palo Alto
Menlo Park
Other City Boundary

0 0.5 1 Miles

Source: Imagery, ESRI 2021; Cumulative Projects, City of Menlo Park 2021.

Figure 3-1
Cumulative Projects

3.1 Transportation

This section discusses the results of the transportation impact analysis (TIA) conducted for the Proposed Project. Specifically, this section describes existing and future transportation and circulation within the study area, describes the analysis methodology and regulatory framework, identifies potential transportation-related impacts of the Proposed Project, and identifies the recommended mitigation measures for identified significant impacts.

For purposes of disclosing potential transportation impacts, projects in Menlo Park use the City of Menlo Park's (City's) current TIA Guidelines to ensure compliance with both State of California (State) and local requirements.[1] Until July 1, 2020, 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, passage of 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 the California Environmental Quality Act (CEQA) in an effort to meet State goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation (e.g., non-driving transportation modes such as bicycling or walking). Public Resources Code Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts pursuant to Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA. OPR identified vehicle miles traveled (VMT) as the required CEQA transportation metric for determining potentially significant environmental impacts.[2] In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section that implemented SB 743 (CEQA Guidelines Section 15064.3). In addition, OPR developed its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which contains OPR's technical recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures.[3]

On June 23, 2020, the City Council of Menlo Park approved local VMT thresholds for incorporation into the updated TIA Guidelines. The City Council, however, retained a requirement that calls for the TIA to also analyze LOS for local planning purposes. On January 11, 2022, the City Council approved changes to the local VMT thresholds; this environmental impact report (EIR) uses the updated thresholds. Per the TIA Guidelines, the TIA includes both an assessment of VMT impacts, using the current local VMT thresholds included in the updated TIA Guidelines for purposes of determining potentially significant environmental impacts pursuant to CEQA, and a summary of the LOS analysis for an assessment of local congestion for planning purposes. However, in accordance with SB 743, for purposes of determining potentially significant environmental impacts, this EIR will focus on only VMT as the threshold of significance. Because the City Council–approved TIA Guidelines also require an analysis of LOS for local planning purposes, that information is summarized in the non-CEQA analysis at the end of this EIR section.

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1 Menlo Park, City of. 2020a. *Transportation Impact Analysis Guidelines*. July. Available: https://menlopark.gov/files/sharedassets/public/public-works/documents/transportation/transportation-projects/tia-guidelines-modifications-approved.pdf. Accessed: February 26, 2021.

2 Governor's Office of Planning and Research. 2016. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013).* January 20.

3 Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Available: opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. December 18.

The information in this section is based on the travel demand modeling and analyses developed by Hexagon Transportation Consultants, Inc. The analyses were conducted in accordance with current standards and methodologies required by CEQA and set forth by the City of Menlo Park (in the TIA Guidelines), the City of East Palo Alto, and the City/County Association of Governments of San Mateo County (C/CAG). The technical appendices are included in Appendix 3.1 of this EIR. The appendices include the LOS analysis summary, turning movement volumes, intersection lane configurations, and intersection and roadway LOS results. The appendices also include the Transportation Demand Management (TDM) memorandum.

Issues identified in response to the Notice of Preparation (Appendix 1-2) were considered in preparing this analysis. Applicable issues include Project-related trip generation, distribution, and assignment; an expanded list of study intersections; creation of a TDM program; mitigation measures; impacts on residents of East Palo Alto; and the Proposed Project's fair-share contribution as part of mitigation.

Existing Conditions

This section describes existing transportation conditions, including the roadway network, bicycle facilities, pedestrian facilities, and transit service, within the study area. The study area includes properties and transportation network infrastructure within an approximately 0.5-mile radius of the Project site. The applicable regulatory framework is also described.

Existing Transportation and Circulation System

This section describes existing transportation conditions, including the roadway network, bicycle facilities, pedestrian facilities, and transit service, within the study area.

Roadway Network

Primary arterials, minor arterials, collectors, and local streets run through the Project area. Regional access to the Project site is provided via US 101 and State Route (SR) 84. In this transportation analysis, US 101 and all streets parallel are defined as running north to south. Conversely, Willow Road and all streets parallel are defined as running east to west. Descriptions of all roadways in the Project area are provided below, using the street (roadway) classifications from the Menlo Park General Plan Circulation Element[4] and the Federal Highway Administration (FHWA) categories. Regional access to the Project area is provided via the Bayshore Freeway and Bayfront Expressway. Local access to the Project site is provided via Willow Road, University Avenue, O'Brien Drive, and Kavanaugh Drive.

Bayshore Freeway (US 101) is a north–south freeway in the vicinity of the Project site with a posted speed limit of 65 miles per hour (mph). US 101 extends northward through San Francisco and southward through San José. Within Menlo Park and East Palo Alto, US 101 has three general-purpose travel lanes, one express lane, and one auxiliary lane in each direction. Access to and from the Project area is provided via full-access interchanges at Willow Road and University Avenue. The Willow Road interchange is partly in Menlo Park and partly in East Palo Alto. The University Avenue interchange is located in East Palo Alto.

Bayfront Expressway (SR 84) is a six-lane expressway that extends along the northern edge of Menlo Park. It has a posted speed limit of 50 mph near the Project site. SR 84 extends eastward across the Dumbarton Bridge and into Alameda County as well as westward through San Mateo County. Bayfront Expressway provides access to the Project area via Willow Road and University Avenue.

[4] Menlo Park, City of. 2016a. *General Plan and M-2 Area Zoning Update (ConnectMenlo), Circulation Element.* Table 1. November 29. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: February 21, 2023.

University Avenue (SR 109) is an east–west, four-lane boulevard (primary arterial) that extends from Stanford University in Palo Alto to Bayfront Expressway in Menlo Park. North of Notre Dame Avenue, University Avenue is a state route with a posted speed limit of 35 mph. Within Menlo Park and East Palo Alto, University Avenue is a four-lane divided roadway with no on-street parking. South of Bay Road, University Avenue has continuous sidewalks on both sides. Between Bay Road and Purdue Avenue, University Avenue has a sidewalk on only one side. Class II bicycle lanes exist on University Avenue, starting just east of Donohoe Street and extending to the location for the future loop road. Between the future loop road and Bayfront Expressway, there is a bike lane on the south side of University Avenue and a separate bikeway on the north side of University Avenue. The posted speed limit on University Avenue east of Notre Dame Avenue is 25 mph. University Avenue provides access to the Project site via O'Brien Drive and Kavanaugh Drive.

Willow Road (SR 114) is a four-lane, east–west boulevard (primary arterial) that serves as a border between Menlo Park and East Palo Alto in some areas; the majority of the roadway is within the city limits of Menlo Park. Willow Road extends from Alma Street on the west to Bayfront Expressway on the east. Bike lanes are provided on Willow Road between Bayshore Expressway and Bay Road south of US 101. In the vicinity of the Project site, Willow Road is designated as SR 114, with a posted speed limit of 40 mph. Willow Road provides access to the Project site via O'Brien Drive.

O'Brien Drive is a north–south, two-lane collector street in the Project area, extending from Willow Road on the north to University Avenue on the south. The posted speed limit in the Project area is 25 mph. Most road segments do not have sidewalks, but pedestrian crosswalks are provided at some intersections. Bicycle facilities are not provided. On-street parking is permitted along certain segments of O'Brien Drive, which provides direct access to the Project site as well as street frontage.

Kavanaugh Drive is a two-lane local street that extends from O'Brien Drive on the north to University Avenue on the south, with on-street parking on both sides of the street. The posted speed limit in the Project area is 25 mph. Sidewalks are present along both sides of the street, except for a small segment (extending about 250 feet) close to O'Brien Drive. Kavanaugh Drive provides access to the Project site via O'Brien Drive.

Casey Court is a two-lane local street that extends about 250 feet from O'Brien Drive to a cul-de-sac. There are no sidewalks along Casey Court. However, on-street parking is allowed. Casey Court serves as the eastern boundary for the Project site. It provides direct access to the accessory parking lot and has a full-access driveway at the end of the cul-de-sac.

Existing Bicycle Facilities

The City's existing bicycle facilities are classified according to the State's system of classification, as identified in the Menlo Park General Plan Circulation Element:

- Class I (bike path) – A Class I bicycle facility is completely separated from vehicles on a paved right-of-way and commonly known as a bike path.
    - Multi-use Pathway – A Multi-use Pathway is a Class I bicycle facility that allows both bicyclists and pedestrians to use the facility.
- Class II (bike lane) – A Class II bicycle facility is a striped, stenciled lane on an existing right-of-way shared with vehicles and commonly known as a bike lane.

- Class III (bike route) – A Class III bicycle facility is identified through signage and/or pavement markings called "sharrows," indicating that bicyclists and drivers share the same travel lane, and commonly referred to as a bike route.
- Class IV (protected bike lane) – A Class IV bicycle facility is a striped lane with vertical and physical separation, such as parking or bollards, from the vehicle travel lane and commonly referred to as a protected bike lane.

Existing bicycle facilities near the Project site are shown in Figure 3.1-1.

The San Francisco Bay Trail, a Class I bike trail, runs parallel to University Avenue east of Purdue Avenue. The path provides connections to the East Bay, East Palo Alto, and Redwood City. Class I bike paths are also located on Bayfront Expressway between Marsh Road and Marshlands Road, across the Dumbarton Bridge, and on the recreational trails at Bedwell Bayfront Park, Meta along Hacker Way, and the Bay Trail near the Ravenswood Preserve.

Class II facilities (bike lanes) are provided on Willow Road between Bayshore Expressway and Bay Road west of US 101, University Avenue between Donohoe Street and Bayfront Expressway, Chilco Street on both sides between Constitution Drive and Bayfront Expressway, and Bay Road on the west side of US 101.

Class III facilities (bike routes) are provided on Bay Road in the northbound direction between Fordham Street and Gloria Way, on Newbridge Street in the northbound direction between Bay Road and Menalto Avenue, on East Bayshore Road between Pulgas Avenue and Embarcadero Road, and on Hacker Way.

Class IV facilities (protected bike lanes) are provided on Willow Road between the US 101 northbound and southbound ramps and on Chilco Street between Menlo Park Fire District Station No. 77 and Constitution Drive.

Existing Pedestrian Facilities

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. The Project site is in a commercial and industrial area with limited pedestrian facilities along the surrounding local streets, including O'Brien Drive and Kavanaugh Drive. Sidewalks are provided only along the east side of O'Brien Drive for a small section north of Kelly Court. Sidewalks are provided only along the south side of University Avenue between Notre Dame Avenue and Purdue Avenue. Sidewalks are available on both sides of University Avenue for a small section between Notre Dame Avenue and Kavanaugh Drive. West of Kavanaugh Drive, a sidewalk is available only along the north side of University Avenue.

Crosswalks are found on one or more approaches at some of the signalized study intersections. The intersection of Willow Road and O'Brien Drive has crosswalks only on the south approach. Crosswalks are available on all the approaches at the intersection of Willow Road and Newbridge Street. The intersections on University Avenue at Notre Dame Avenue and at Kavanaugh Drive have crosswalks only on the east and west approaches, respectively. The intersection at University Avenue at O'Brien Drive does not have crosswalks.

Crosswalks are available only at one of the unsignalized intersections in the vicinity of the Project site. The all-way, stop-controlled intersection at Adams Drive and O'Brien Drive has crosswalks on all approaches. The unsignalized intersections at O'Brien Drive and Kavanaugh Drive do not have crosswalks.

Bicycle and pedestrian counts were conducted as part of the peak-hour turning movement counts conducted for this study during the weekday AM and PM peak hours. Pedestrian and bicycle traffic is relatively low within the study area. The counts are included in Appendix 3.1.

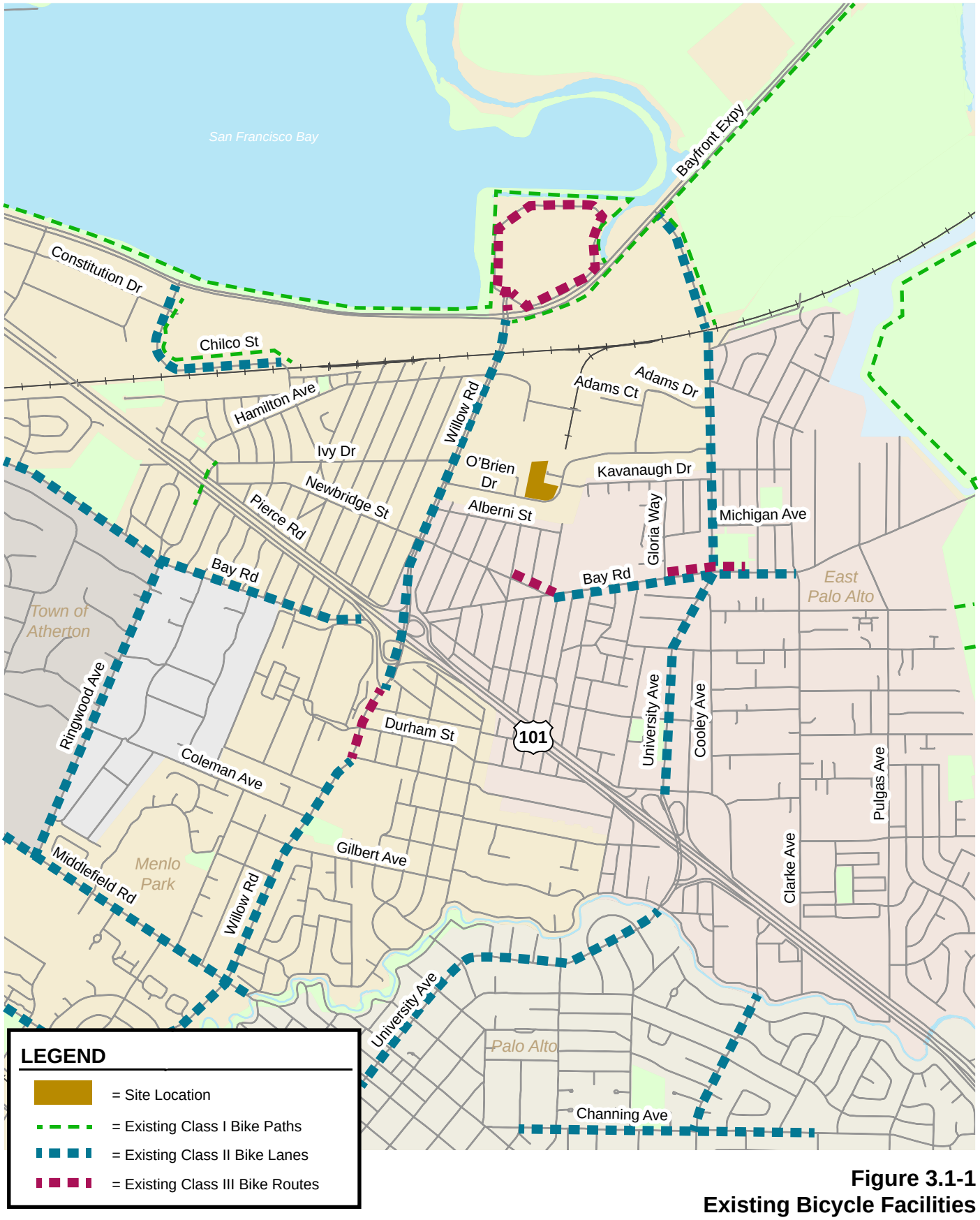


Figure 3.1-1
Existing Bicycle Facilities

Existing Transit Service

Transit service to the study area is provided by the San Mateo County Transit District (SamTrans), Alameda-Contra Costa Transit District (AC Transit), and the Menlo Park Shuttle Service. The bus routes that provided services near the Project site in November 2021 are listed in Table 3.1-1 and shown in Figure 3.1-2. The services that are shown have a bus stop within 0.25 mile of the Project site, which is considered the typical walking distance for bus services.

Table 3.1-1: Existing Transit Services

Bus Route	Route Description	Traveled Roadways	Closest Bus Stops	Weekday Hours of Operation[a]	Headway[b]
AC Transit Dumbarton Express Line DB	Union City BART to Stanford University	Dumbarton Bridge, Bayfront Expressway, Willow Road, Middlefield Road	Willow Road and O'Brien Drive	5:25 a.m.–8:45 p.m.	25–30 min
AC Transit Dumbarton Express Line DB1	Union City BART to Stanford Research Park	Dumbarton Bridge, Bayfront Expressway, Willow Road, US 101	Willow Road and O'Brien Drive	5:10 a.m.–8:30 p.m.	30–40 min
SamTrans Route 81	Menlo-Atherton High School to Clarke and Bayshore	Middlefield Road, Willow Road, University Avenue, Pulgas Avenue, Kavanaugh Drive, Hamilton Avenue	Kavanaugh Drive and Kirkwood Court	6:45 a.m.–8:45 a.m. and 3:20 p.m.–4:20 p.m.	10 min
SamTrans Route 281	Onetta Harris Center to Stanford Mall	Newbridge Street, Bay Road, University Avenue	Willow Road and Newbridge Street	6:00 a.m.–10:30 p.m.	15–30 min
SamTrans Route 296	Redwood City Transit Center to Palo Alto Transit Center	Middlefield Road, Willow Road, Newbridge Street, Bay Road	Willow Road and Newbridge Street	All day	20 min
SamTrans Route 397	San Francisco to Palo Alto Transit Center	Middlefield Road, Willow Road, Newbridge Street, Bay Road, University Avenue	Willow Road and Newbridge Street	12:45 a.m.–6:30 a.m.	60 min
M1 Crosstown Shuttle	Belle Haven to Sharon Heights	Middlefield Road, Willow Road, Ivy Drive, Chilco Street, Terminal Avenue	Willow Road and Ivy Drive	8:15 a.m.–5:50 p.m.	90–120 min
M4 Willow Road Shuttle	Menlo Park Caltrain Station to Adams Court	Willow Road, O'Brien Drive, Hamilton Avenue, Hamilton Court, Adams Court	1200 O'Brien Drive	6:40 a.m.–10:05 a.m. and 4:05 p.m.–6:27 p.m.	60 min

Notes:

a. Approximate weekday hours of operation and headways during peak commute periods in the Project area, as of November 2021.

b. The average interval of time between vehicles moving in the same direction on the same route.

BART = Bay Area Rapid Transit

Figure 3.1-2
Existing Transit Services

NORTH
Not to Scale

Analysis Scope and Methodology

For purposes of disclosing potential transportation impacts, projects in Menlo Park use the City's current TIA Guidelines to ensure compliance with both State and local requirements.[5] Until July 1, 2020, the City's TIA Guidelines used roadway congestion, or LOS, as the primary study metric. However, SB 743 required OPR to establish a new metric for identifying and mitigating transportation impacts within the context of CEQA in an effort to meet the State's goals to reduce GHG emissions, encourage infill development, and improve public health through the use of more active transportation (bicycling and walking). OPR identified VMT as the required transportation impact metric.

The City updated its TIA Guidelines in July 2020 to include guidance for evaluating VMT. The local VMT thresholds were subsequently modified by the City Council on January 11, 2022; those thresholds are included in this analysis. Therefore, this analysis evaluates VMT impacts with use of the current local VMT thresholds included in the updated TIA Guidelines to determine potentially significant environmental impacts.

VMT is the total number of miles of travel involving personal motorized vehicles (i.e., cars and light trucks) that a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle trips that originated or ended within a project site. Heavy-duty trucks are not included in VMT modeling. According to OPR's technical advisory, VMT involving heavy-duty trucks can be excluded from the analysis under SB 743.

The Proposed Project is within the Life Science-Bonus (LS-B) zoning district of the Bayfront Area of Menlo Park. Project VMT was estimated using the City's Travel Demand Model. The model estimates the Proposed Project's effect on total daily VMT in accordance with the City's TIA Guidelines. Evaluated daily VMT accounts for the entire distance of a trip associated with the Proposed Project. For example, the entire length of a trip made by an employee coming from and returning to his or her home would be captured in the daily VMT analysis. The model is used to estimate average daily VMT within the City's Transportation Analysis Zones (TAZs)[6] and determine VMT thresholds for the residential and commercial land uses identified in the City's TIA Guidelines.

Table 3.1-2 shows the existing average daily VMT per employee in the region (regional average) and the City's VMT threshold, which is 15 percent below the regional average. The City adopted this threshold in January 2022 for determining if project VMT impacts are significant. The City's TIA Guidelines also outline specific land use types and sizes that would be exempted from VMT analysis. The proposed research and development related to life sciences would generate more than 100 vehicle trips per day. The Project site is not categorized as a low VMT area, nor is it within 0.5 mile of an existing "major transit stop" or a "high-quality transit corridor." Therefore, the Proposed Project is not exempt from VMT analysis.

[5] Menlo Park, City of. 2020a, op. cit.

[6] The Menlo Park Travel Demand Model encompasses the nine Bay Area counties, which are divided into thousands of TAZs. Each TAZ is comprises several streets, neighborhoods, or city blocks, depending on the geographical features and surrounding land uses. There are approximately 80 TAZs within the boundaries of Menlo Park. As such, when adding or subtracting a project from a TAZ, the internal interactions within the model will affect the entire TAZ as well as surrounding TAZs.

Table 3.1-2: Regional Average Vehicle Miles Traveled per Employee

Land Use	Regional Average	VMT Threshold (15 Percent below Regional Average)
Office (per employee)	15.9	13.5

Sources: City of Menlo Park. 2020a. *Menlo Park Transportation Impact Guidelines.* June 16; updated in January 2022; City of Menlo Park. 2020b. *Menlo Park Travel Demand Model*.

Regulatory Framework

The following federal, State, regional, County of San Mateo, and local transportation plans, policies, and regulations guide transportation planning in Menlo Park.

Federal Regulations

This section summarizes the applicable federal regulations guiding transportation planning in Menlo Park.

Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency of the U.S. Department of Transportation responsible for the federally funded roadway system, including the interstate highway network and portions of the primary State highway network, such as Interstate 280 and US 101.

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 ensure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the U.S. 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. Although 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, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

State Regulations

This section summarizes the applicable State regulations guiding transportation planning in Menlo Park.

California Department of Transportation

The California Department of Transportation (Caltrans) is responsible for the planning, design, construction, and maintenance of all interstate freeways and State routes. Caltrans sets design standards for State roadways that may be used by local governments. Caltrans requirements are described in its *Traffic Impact Study Guide*,[7] which covers the information Caltrans needs to review impacts on State highway facilities, including freeway segments, on- and off-ramps, and signalized intersections.

[7] California Department of Transportation. 2020. *Transportation Impact Study Guide*. May.

Senate Bill 375

As a means for achieving the statewide emissions reduction goals set by Assembly Bill (AB) 32 (The California Global Warming Solutions Act of 2006), SB 375 (The Sustainable Communities and Climate Protection Act of 2008) directs the California Air Resources Board (CARB) to set regional targets for reducing GHG emissions from cars and light trucks. Using the template provided by the State's Regional Blueprint program to accomplish this goal, SB 375 seeks to align transportation and land use planning to reduce VMT through modified land use patterns.

There are five basic directives under SB 375: 1) the creation of regional targets for GHG emissions reductions that are tied to land use, 2) a requirement for regional planning agencies to create a Sustainable Communities Strategy (SCS) to meet the targets (or an alternative planning strategy if the strategies in the SCS do not reach the target set by CARB), 3) a requirement for regional transportation funding decisions to be consistent with the SCS, 4) a requirement for the Regional Housing Needs Allocation numbers for municipal general plan housing element updates to conform to the SCS, and 5) CEQA exemptions and streamlining for projects that conform to the SCS. The implementation mechanism for SB 375 that applies to land uses in Menlo Park is Plan Bay Area 2050, adopted by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) in 2021 (see below). However, Plan Bay Area 2050 has been challenged in court; therefore, this analysis also references the previous version, Plan Bay Area 2040.

Senate Bill 743

SB 743 (Public Resources Code Section 21099[b][1]) requires OPR to develop revisions to the CEQA Guidelines that establish criteria for determining the significance of transportation impacts of projects that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Public Resources Code Section 21099(b)(2) states that, upon certification of the revised guidelines for determining transportation impacts, pursuant to Public Resources Code Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, OPR published for public review and comment its *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing SB 743 (Steinberg 2013),* recommending that transportation impacts for projects be measured with use of a VMT metric.[8] In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section that implements SB 743 (Section 15064.3). OPR also developed a *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which contains OPR's technical recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures.[9]

Regional Regulations

This section summarizes applicable regional regulations guiding transportation planning in Menlo Park.

[8] Governor's Office of Planning and Research. 2016. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing SB 743 (Steinberg 2013).* January 20.

[9] Governor's Office of Planning and Research. 2018, op. cit.

Metropolitan Transportation Commission

MTC is responsible for planning, coordinating, and financing transportation projects in the nine-county Bay Area. The local agencies that make up the nine counties help MTC prioritize projects, based on need, feasibility, and conformance with federal and local transportation policies. 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[10] is a state-mandated, integrated long-range transportation and land use plan for the Bay Area which was adopted by MTC and ABAG in October 2021. As required by SB 375, all metropolitan regions in California must complete an SCS as part of a Regional Transportation Plan. This strategy integrates transportation, land use, and housing requirements to meet GHG reduction targets set by CARB. The plan meets those requirements. In addition, the plan sets a roadmap for future transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

Under Plan Bay Area 2050, approximately half of all Bay Area households would live within 0.5 mile of frequent transit by 2050; this number increases to more than 70 percent for households with low incomes. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use patterns, are forecast to lower the share of Bay Area residents who drive to work alone from 50 percent in 2015 to 33 percent in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the State mandate that calls for a 19 percent reduction in per capita emissions by 2035.

Plan Bay Area 2050 carries forward many of the development and funding strategies of Plan Bay Area 2040. Plan Bay Area 2040 identified Priority Development Areas to focus development in transit-rich areas and meet regional GHG reduction targets. Plan Bay Area 2040 estimated that approximately 77 percent of new housing and 55 percent of job growth will occur in Priority Development Areas between 2010 and 2040. The Project site is not within a Priority Development Area.

City/County Association of Governments of San Mateo County Congestion Management Program

The purpose of the Congestion Management Plan (CMP) is to identify strategies that respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide transportation solutions. The CMP is required to be consistent with the MTC planning process, which includes regional goals, policies, and projects for the Regional Transportation Improvement Program. To monitor attainment of the CMP, the C/CAG adopted roadway LOS standards. The LOS standards established for San Mateo County vary by roadway segment but conform to current land use plans as well as the development differences for the coast, bayside areas, older downtown areas, and other areas of San Mateo County. Although the intersections associated with development of the Proposed Project are monitored by C/CAG for compliance with CMP standards, most of the intersections are within Menlo Park and East Palo Alto city limits and subject to the more stringent standards implemented by the cities. The CMP also requires new development that would generate 100 or more daily trips to implement TDM measures to reduce project impacts. The Proposed Project would generate more than 100 daily trips. Based on the requirements of C/CAG, the Proposed Project would be required to develop and implement TDM measures to reduce the number of vehicle trips.

[10] Plan Bay Area 2050 was adopted by MTC and ABAG in October 2021; however, the 2050 plan has been challenged in court. This EIR evaluates the Proposed Project's consistency with both Plan Bay Area 2040 and Plan Bay Area 2050.

San Mateo County Comprehensive Bicycle and Pedestrian Plan

The San Mateo County Comprehensive Bicycle and Pedestrian Plan was developed by C/CAG, with support from the San Mateo County Transportation Authority, to address the planning, design, funding, and implementation of bicycle and pedestrian projects countywide. The following are relevant goals and policies:

Goal 2: More People Riding and Walking for Transportation and Recreation.

Policy 2.6: Serve as a resource to county employers on promotional information and resources related to bicycling and walking.

Goal 4: Complete Streets and Routine Accommodation of Bicyclists and Pedestrians.

Policy 4.1: Comply with the Complete Streets Policy requirements of Caltrans and MTC 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.

Policy 4.6: Discourage local agencies from removing, degrading, or blocking access to bicycle and pedestrian facilities without providing a safe and convenient alternative.

City of Menlo Park

This section summarizes the applicable City regulations guiding transportation planning in Menlo Park.

Menlo Park General Plan

Transportation-related policies are included in the Circulation Element of the General Plan and M-2 Area Zoning Ordinance Update. This section was added to the Menlo Park General Plan to provide a framework for transportation planning within the city and 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 regarding land use, population, and regional transportation. The Menlo Park General Plan Circulation Element establishes a vision for the city, with goals related to sustainability, reliability, and safety for all modes of transportation. The following transportation goals and policies are relevant to the Proposed Project.

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 controls, 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 Pedestrian, Bicyclists, and Transit Riders.

Policy CIRC-2.1: Accommodating All Modes. Plan, design, and construct transportation projects to accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities safely.

Policy CIRC-2.2: Livable Streets. Ensure that transportation projects preserve and improve the aesthetics of the city.

Policy CIRC-2.3: Street Classification. Use 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-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway designs and maintenance, effective traffic law enforcement, and implementation of the City's Transportation Master Plan (following completion; until such time, the Comprehensive Bicycle Development Plan, Sidewalk Master Plan, and El Camino Real/Downtown Specific Plan represent the City's proposed walking and bicycling networks).

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 designs, maintenance, effective traffic law enforcement, and implementation of the City's Transportation Master Plan (following completion; until such time, the Comprehensive Bicycle Development Plan and El Camino Real/Downtown Specific Plan represent the City's proposed bicycle network).

Policy CIRC-2.11: Design of New Development. Require new development to incorporate designs 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., 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 to 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 vehicle miles traveled per service population (or other efficiency metric).

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

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 stop delay on local approaches to State-controlled signalized intersections does not exceed LOS E.

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, such as 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-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.

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-6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the downtown Menlo Park Caltrain station.

Policy CIRC-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.

Menlo Park Municipal Code

The Proposed Project is located in the LS-B Zoning District. The City Zoning Ordinance requires development and implementation of a TDM plan:

Chapter 16.44.090: Transportation Demand Management. As stated in Chapter 16.44.100 of the City Zoning Ordinance, as applicable to the Life Science District, 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 project site.

The City's *Transportation Demand Management Program Guidelines*[11] provides options for the City to use to mitigate the traffic impacts of new developments. The guidelines include an extensive list of TDM measures, accompanied by the number of trips credited to each measure and the rationale for each measure. The list of recommended measures and the associated trip credits are maintained by C/CAG as part of the San Mateo County CMP.

Pursuant to City Zoning Ordinance Section 16.44.090(1), eligible TDM measures may include, but are not limited to, those listed below.

- Participation in a local transportation management association (TMA) 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;
- Requirement for drivers to pay directly for using parking facilities;
- Public and/or private bike-share programs;
- Provision of or subsidy for carpool, vanpool, shuttle, or bus service, including transit passes for site occupants;
- Requirement for alternative work schedules and/or telecommuting;
- 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; and
- Green trip certification.

Subsection 16.44.090(2) of the City Zoning Ordinance states that each 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 the City's transportation manager;
- Required to be replaced by appropriate substitute measures if unable to achieve the intended trip reduction in any reporting year (failure to do so will result in revocation of permit); and
- Administered by a representative whose updated contact information is provided to the transportation manager.

[11] Menlo Park, City of. 2015. *Transportation Demand Management Program Guidelines*. Adopted July 21. Available: https://menlopark.gov/files/sharedassets/public/public-works/documents/transportation/menlo-park-transportation-demand-management-program-guidelines.pdf. Accessed: September 24, 2020.

Transportation Impact Fee. The City initiated a Transportation Impact Fee (TIF), as codified in Menlo Park Municipal Code Chapter 13.26, to help fund transportation improvements as new development occurs in the city. New development and redevelopment projects contribute, through the TIF, to the cost of new transportation infrastructure associated with development. The types of developments that are subject to the TIF are:

- All new development in all land use categories identified in the City Zoning Ordinance,
- Any construction adding additional floor area to a lot with an existing building,
- New single-family and multi-family dwelling units, and
- Changes of use from one land use category to a different land use category that requires Planning Commission approval.

The TIF provides a mechanism for modernizing the City's fee program and collecting funds for construction of the improvements identified and prioritized in the Transportation Master Plan.

Menlo Park Plans and Policies

Complete Streets Policy

The Complete Streets Policy was adopted by the City in 2013. The policy confirms the City's commitment to ensure safe, comfortable, and convenient travel along and across streets for all users. Complete Streets infrastructure should be considered for incorporation into all significant planning, funding, design, approval, and implementation processes for new construction, maintenance, and retrofit construction.

Neighborhood Traffic Management Plan

The Neighborhood Traffic Management Plan 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 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 traffic and restrict access to certain properties. The traffic management measures that need to be implemented are recommended by City personnel at the request of the community.

Transportation Master Plan

The Transportation Master Plan identifies appropriate projects for enhancing the transportation network. It prioritizes projects, based on need for implementation, and includes an update to the City's Bicycle and Sidewalk Plans.

Transportation Impact Analysis Guidelines

The City's TIA Guidelines specify which projects must complete a TIA prior to obtaining approval from the City. The City requires that a TIA be prepared by a qualified consultant selected by the City but paid for by the Project Sponsor. The TIA Guidelines also specify the requirements of the analyses that must be included in a TIA. The TIA Guidelines require analysis of both VMT and LOS transportation metrics independently, using the methodologies approved by the City for all projects, except those meeting established exemption criteria.

Environmental Impacts

This section analyzes the potential of the Proposed Project to result in impacts on the transportation network. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The analysis below makes reference to, and tiers from, the ConnectMenlo Final EIR, where appropriate. The findings presented in the ConnectMenlo Final EIR are presented prior to the Project impact analysis. The latter part of this section presents the impacts associated with implementation of the Proposed Project and identifies mitigation measures, as appropriate.

Significance Criteria

The Proposed Project would result in a significant impact related to transportation.

- Would the Project conflict with an applicable plan, ordinance, or policy for the circulation system, including transit, roadway, and bicycle, and pedestrian facilities?
- Would the Project exceed an applicable VMT threshold of significance?
- Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Would the Project result in inadequate emergency access?

Summary of Analysis in the ConnectMenlo EIR

The following provides an overview of impacts on transportation and circulation as well as the required mitigation measures, as identified in the ConnectMenlo Final EIR. The transportation and circulation impacts assessed in the ConnectMenlo Final EIR included the Project site as part of the citywide analysis. The ConnectMenlo Final EIR identified the following program-level impacts related to implementation of the Menlo Park General Plan (Land Use and Circulation Elements) and M-2 Area Zoning Update, which revised the Project site's zoning from General Industrial (M-2) to LS-B in 2016.

Roadway Segments

As noted in the Regulatory Framework discussion, above, CEQA no longer considers automobile delay (including roadway segment LOS) to be an environmental impact. The following ConnectMenlo Final EIR impact summary is provided for informational purposes.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would generate additional motor vehicle trips on the local roadway network, resulting in significant impacts at some study segments. ConnectMenlo Mitigation Measure TRANS-1a would require the widening of affected roadway segments throughout the city. This would add the travel lanes and capacity needed to accommodate the increase in the net number of daily trips. Implementation of Mitigation Measure TRANS-1a would reduce impacts but not to a less-than-significant level. Implementation of Mitigation Measure TRANS-1a could require an additional right-of-way to add travel lanes in areas that are not under the jurisdiction of the City. This is considered infeasible at most locations. In addition, roadway widening may lead to secondary impacts, such as induced travel demand. Wider roadways can also degrade bicycle and pedestrian facilities. Furthermore, fully mitigating the impact to less-than-significant levels would not be feasible because it would require eliminating most of the 2040 traffic growth on affected segments, including the background traffic growth and regional traffic growth outside the control of the City. For these reasons, impacts on roadway segments were considered significant and unavoidable.

Intersections

As noted in the Regulatory Framework discussion, above, CEQA no longer considers automobile delay (including intersection LOS) to be an environmental impact. The following ConnectMenlo Final EIR impact summary is provided for informational purposes.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would generate additional motor vehicle trips on the local roadway network, resulting in increased delay for peak-hour motor vehicle traffic and significant impacts at some study intersections. Mitigation Measure TRANS-1b would update the City's TIF program to secure a funding mechanism for future roadway and infrastructure improvements and mitigate impacts from future projects (based on the current standards at the time the ConnectMenlo Final EIR was certified) but would not reduce the impact to a less-than-significant level. The City could not guarantee improvements at affected intersections because a nexus study (i.e., for development impact fees under AB 1600) had not been prepared, some improvements could cause secondary environmental impacts that would need to be addressed prior to construction, and some affected intersections are within the jurisdiction of the City of East Palo Alto and Caltrans. For these reasons, impacts on intersections were considered significant and unavoidable. Subsequently, the City's TIF program was updated and approved by the City Council. The City's transportation Master Plan has also been updated. It was adopted by the City Council on November 17, 2020. The identified roadway improvements would not, however, fully mitigate the intersection impacts identified in the ConnectMenlo Final EIR.

Routes of Regional Significance

As noted in the Regulatory Framework discussion, above, CEQA no longer considers automobile delay, including on routes of regional significance, to be an environmental impact. The following ConnectMenlo Final EIR impact summary is provided for informational purposes.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would generate additional motor vehicle trips on the local roadway network, resulting in significant impacts on routes of regional significance. ConnectMenlo Mitigation Measure TRANS-1a would require the widening of affected roadway segments throughout the city. This would add travel lanes and capacity to accommodate the increase in the net number of daily trips. Implementation of Mitigation Measure TRANS-1a would reduce the impacts but not to a less-than-significant level. Implementation of Mitigation Measure TRANS-1a could require an additional right-of-way to add travel lanes in areas that are not under the jurisdiction of the City. The measure is also limited by downstream capacity on facilities such as US 101 and Dumbarton Bridge. As such, the mitigation was considered infeasible in most locations. For these reasons, impacts on routes of regional significance were considered significant and unavoidable.

Bicycle and Pedestrian Facilities

The ConnectMenlo Final EIR found that the new development potential under ConnectMenlo would generate new transit riders, bicyclists, and pedestrians. Implementation of ConnectMenlo and other existing City standards and regulations would involve goals, policies, and programs that call for an integrated network of bicycle and pedestrian facilities as well as a system that meets the needs of transit users. Furthermore, future development would be concentrated on sites that are either already developed and/or in proximity to existing development. These would be served by existing transit, bicycle, and pedestrian infrastructure. However, much of the anticipated development under ConnectMenlo would occur in the Bayfront Area, including properties east of US 101 that are not adequately connected to the pedestrian and bicycle circulation network locally or west of US 101. Therefore, the ConnectMenlo EIR found that implementation of ConnectMenlo would not provide adequate pedestrian or bicycle facilities that would connect to the area-wide circulation system. ConnectMenlo Mitigation Measure TRANS-6a

would update the City's TIF program to secure a funding mechanism for future pedestrian and bicycle improvements and mitigate impacts from future projects (based on the current standards at the time the ConnectMenlo Final EIR was certified) but would not reduce the impact to a less-than-significant level. Because a nexus study (pursuant to AB 1600) had not yet been prepared, the City could not guarantee improvements, and no additional mitigation measures were feasible and available. For these reasons, implementation of ConnectMenlo would not provide adequate bicycle or pedestrian facilities that would connect to the area-wide circulation system. Impacts were considered significant and unavoidable. Subsequently, the City's TIF program was updated and approved by the City Council. The City's Transportation Master Plan has also been updated. It was approved by the City Council on November 17, 2020. However, the identified bicycle and pedestrian improvements would not be fully funded by the TIF. Therefore, the ConnectMenlo impact would remain significant and unavoidable.

Transit

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would generate a substantial increase in the number of transit riders, an increase that could not be adequately serviced by existing public transit services. Implementation of ConnectMenlo would generate a demand for transit services at sites more than 0.25 mile from existing public transit routes. ConnectMenlo Mitigation Measure TRANS-6b would update the City's existing Shuttle Fee program to guarantee funding for operation of the City-sponsored shuttle service, which is necessary to mitigate impacts from future projects, based on then-current City standards. Implementation of Mitigation Measure TRANS-6b would reduce the impacts but not to a less-than-significant level. Because a nexus study had not yet been prepared (pursuant to AB 1600), the City could not guarantee improvements, and no additional mitigation measures were feasible and available. For these reasons, impacts on transit were considered significant and unavoidable.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would result in increased peak-hour traffic delay at intersections on Bayfront Expressway, University Avenue, and Willow Road. This could decrease the performance of transit service and increase the cost of transit operations. ConnectMenlo Mitigation Measure TRANS-6c could result in the provision of transit service on the Dumbarton Corridor to mitigate the impact. However, because the provision of Dumbarton transit service would require approvals from other public agencies and is not under the jurisdiction of the City, implementation of this mitigation could not be guaranteed. No additional mitigation measures were feasible and available. For these reasons, impacts on transit were considered significant and unavoidable.

Vehicle Miles Traveled

Until July 1, 2020, the City's TIA Guidelines used roadway congestion, or LOS, as the primary study metric. Although the ConnectMenlo Final EIR did include an evaluation of VMT impacts (even though VMT analysis or thresholds were not required under CEQA at the time), the VMT standards applied in the ConnectMenlo Final EIR differed from those adopted under the updated TIA Guidelines.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would not result in an exceedance of the VMT threshold of significance, resulting in less-than-significant impacts with respect to VMT.

Hazards

The ConnectMenlo Final EIR found that future developments and 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. In addition, future development would be concentrated on sites that are already developed, areas where impacts related to incompatible traffic-related land uses would not be likely to occur. Therefore, adoption of ConnectMenlo would result in less-than-significant impacts with respect to hazards due to design features or incompatible uses.

Emergency Access

The ConnectMenlo Final EIR found that ConnectMenlo and other City standards and regulations would include policies that would ensure efficient circulation and adequate access in Menlo Park, which would help facilitate emergency response. In addition, future development would be concentrated on sites that are already developed, areas where impacts related to inadequate emergency access would not be likely to occur. Implementation of ConnectMenlo would result in less-than-significant impacts with respect to inadequate emergency access.

Cumulative Conditions

The ConnectMenlo Final EIR found that the cumulative impacts on the transportation network would be the same as those identified above for each topic.

Proposed Transportation Demand Management Plan

The Project Sponsor would implement a TDM plan as part of the Proposed Project in an effort to reduce the number of Project-generated vehicle trips and encourage travel by other modes, as described in the Proposed Project's TDM memorandum.[12] The TDM plan includes the measures below, which are in compliance with Chapter 16.44.090 of the City Zoning Ordinance and the City TDM Guidelines.

The following measures would be implemented as part of the Proposed Project in an effort to reduce Project-generated vehicle trips and encourage travel by other modes:

- Bicycle storage,
- Showers/changing rooms,
- Subsidized transit tickets (GoPass for Caltrain),
- Commute assistance center/computer kiosk connected to internet,
- Bike-share program,
- Enterprise car-share program,
- Shuttle stop, and
- Electric-vehicle (EV) charging stations.

Similar to a large company or transportation management association, the Project Sponsor manages TDM programs for multiple buildings, including buildings in the vicinity of the Proposed Project. This may result in increased effectiveness for individual projects. However, to maintain a conservative approach, no assumptions were made in modeling the Proposed Project's TDM program with respect to increased efficiency due to centralized operations. Section 16.44.090(2)(B) requires monitoring and annual reporting to the City's transportation manager to ensure continued effectiveness of the TDM program.

The building at 1305 O'Brien Drive, which is operated by the Project Sponsor, has a TDM program similar to that of the Proposed Project. The effectiveness of the program has been monitored since 2018. Vehicular traffic at each of the site's driveways was counted in 2018, 2019, and 2020 as part of the TDM monitoring process. Based on this monitoring, the TDM plan for 1305 O'Brien Drive achieved a 32 to 40 percent trip reduction rate for the AM and PM peak hours in 2018 and 2019. The results from the 2020

[12] Kimley Horn, Inc. 2021. *Transportation Demand Management Memorandum for 1125 O'Brien Drive*. January 26.

TDM monitoring were not used because of the impact from COVID-19, which generally decreased worker commuting. These results suggest that a similar trip reduction (up to 40 percent) is achievable for the Proposed Project. Modeling performed for the TDM plan shows that, although VMT reduction and trip reduction are not precisely equal, TDM measures could have a similar effect. The results suggest that a similarly high VMT reduction is feasible (see Appendix 3.1). To maintain a conservative review for the Proposed Project, although the TDM memorandum shows a trip generation reduction between 24 and 34 percent, the analysis in this section uses the minimum 20 percent trip reduction required by the Menlo Park Municipal Code.

Trip Generation

Through empirical research, data have been collected to quantify the traffic produced by various types of land uses. The data are compiled in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th edition (2021). The magnitude of the traffic added to the roadway system by a development is estimated by multiplying the applicable trip generation rate by the size of the development. The trip generation rates published for "Research and Development Center" (Land Use Code 760) were used to estimate the number of trips generated by the Proposed Project.

The Proposed Project would also include a café that would operate from 7:30 a.m. to 9:30 a.m. and 11 a.m. to 2 p.m. It is assumed that the proposed café would serve primarily employees of the building or other buildings within walking distance rather than people from other areas (passby café customers would not be additional trips). Therefore, no external vehicle trips are assumed. Café employee trips are included in the trip calculations, which are based on the square footage of the research-and-development (R&D) building. Based on the ITE rates for R&D, the Proposed Project would generate 136 gross new AM peak-hour trips and 129 gross new PM peak-hour trips.

The Proposed Project would be required to develop a comprehensive TDM plan to reduce the number of vehicle trips by 20 percent, per the Menlo Park Municipal Code (Chapter 16.44.090, Transportation Demand Management). As previously described, a nearby project achieved a reduction that was greater than 20 percent, according to the TDM effectiveness monitoring. Therefore, this analysis assumes that the Project site would achieve at a 20 percent (minimum) reduction in the number of peak-hour trips.

Trips associated with existing uses on the Project site were credited against new trip generation. Estimates regarding trips generated by existing buildings on the site were based on ITE 11th-edition trip rates for "Research and Development Center" (Land Use Code 760) and "Warehousing" (Land Use 150). As shown in Table 3.1-3, with the existing trip credit, the Proposed Project would be expected to generate a net total of 798 daily trips, including 74 (61 in and 13 out) AM peak-hour trips and 69 (11 in and 58 out) PM peak-hour trips.

Project Impacts

This section analyzes potential Project-specific and cumulative impacts on the transportation and circulation network in the study area.

Impact TRA-1. The Proposed Project would not conflict with an applicable plan, ordinance, or policy for the circulation system, including transit, roadway, and bicycle and pedestrian facilities (LTS)

This section discusses the Proposed Project's impacts related to conflicts with applicable plans, ordinances, and policies. As discussed in more detail below, for CEQA purposes, the Proposed Project would be consistent with applicable plans, ordinances, and policies regarding the circulation system, as shown in Table 3.1-4; therefore, impacts would be **less than significant**.

Table 3.1-3: Project Trip Generation Estimates

Land Use	Size	Unit	Daily Rate	Daily Trips	AM Peak Hour Peak Rate	AM Peak Hour Trips In	AM Peak Hour Trips Out	AM Peak Hour Total Trips	PM Peak Hour Peak Rate	PM Peak Hour Trips In	PM Peak Hour Trips Out	PM Peak Hour Total Trips
Proposed Project[a]												
R&D[b]	131.8	ksf	11.08	1,461	1.03	112	24	136	0.98	21	108	129
20% TDM R&D Trip Reduction				*(292)*		*(22)*	*(5)*	*(27)*		*(4)*	*(22)*	*(26)*
R&D Trips after TDM Reduction				**1,169**		**90**	**19**	**109**		**17**	**86**	**103**
Existing Uses[c]												
R&D[b]	28.7	ksf	11.08	(318)	1.03	(25)	(5)	(30)	0.98	(4)	(24)	(28)
Warehouse[d]	31.2	ksf	1.71	(53)	0.17	(4)	(1)	(5)	0.18	(2)	(4)	(6)
Net Project Total				**798**		**61**	**13**	**74**		**11**	**58**	**69**

Notes:

All rates are from the Institute of Transportation Engineers, *Trip Generation Manual,* 11th edition.

a. It is assumed that the proposed café would serve only employees in the building or employees within walking distance. No external vehicle trips would be generated. Café employee trips are captured in the R&D trip generation rates.

b. Land Use Code 760: Research and Development Center (average rates, expressed in trips per 1,000 square feet of gross floor area).

c. Existing uses are based on the descriptions in the Initial Study dated July 2021: 26,911 gross square feet of R&D space at 1135 O'Brien Drive and 1165 O'Brien Drive, 1,750 gross square feet of R&D space and 10,250 gross square feet of warehouse space at 1105 O'Brien Drive, and 20,955 gross square feet of warehouse space at 1 Casey Court.

d. Land Use Code 150: Warehousing (average rates, expressed in trips per 1,000 square feet of gross floor area).

Ksf = thousand square feet

Table 3.1-4: Project Compliance with Applicable Transportation-Related Plans, Ordinances, and Policies

Plan/Ordinance/Policy	Project Consistency
Plan Bay Area 2040 and 2050[13]	***Consistent.*** The Proposed Project would be consistent with the Plan Bay Area 2040 and 2050 goals and performance targets for transportation system effectiveness. Specifically, the Proposed Project would increase non-auto mode share. The Proposed Project would develop a new R&D office near existing residential and commercial uses, reducing the demand for travel by single-occupancy vehicles. The Proposed Project would also develop and implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the Project site. In addition, the Project area is served by public transit facilities. It would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles.
C/CAG Congestion Management Program	***Consistent.*** This is no longer a CEQA threshold. This analysis is provided for informational and planning purposes only. The Proposed Project is evaluated in this section for compliance with the C/CAG CMP roadway LOS standard. As summarized in the TIA, the Proposed Project would contribute to deficiencies in CMP intersections near the Project site. The Proposed Project would pay TIF and fair-share payments to address its contribution to deficiencies. The Proposed Project would generate more than 100 daily trips. Therefore, it would be required to implement a TDM plan and comply with the checklist, which it has proposed to do, as shown in Table 3.1-10 of Appendix 3.1.
San Mateo County Comprehensive Bicycle and Pedestrian Plan	
Policy 2.6: Serve as a resource to county employers on promotional information and resources related to bicycling and walking.	***Consistent***. The Proposed Project would implement a TDM plan[14] that includes an online kiosk with transportation information, carpool/vanpool matching services, bike storage and lockers, showers/changing rooms, and subsidized transit tickets (Caltrain). As such, the Proposed Project would serve as a resource to employers on promotional information and resources related to bicycling and walking.
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.	***Consistent.*** The Proposed Project would provide safe and convenient access for bicyclists and pedestrians and comply with the Complete Streets Policy requirements of Caltrans and MTC.

[13] Plan Bay Area 2050 was adopted by MTC and ABAG in October 2021; however, the 2050 plan has been challenged in court. This EIR evaluates the Proposed Project's consistency with both Plan Bay Area 2040 and Plan Bay Area 2050.

[14] Kimley Horn, Inc. 2021. *Transportation Demand Management Memorandum for 1125 O'Brien Drive.* January 26.

Plan/Ordinance/Policy	Project Consistency
Menlo Park General Plan, Circulation Element	
Circ-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.	***Consistent.*** The Proposed Project would provide safe and convenient access for bicyclists and improve bicyclist safety through design efforts, including the provision of secure short- and long-term on-site parking.
Circ-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right-of-way to ensure that appropriate facilities, traffic controls, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.	***Consistent.*** The Proposed Project would provide safe and convenient access for pedestrians and improve pedestrian safety through design efforts, including dedication of easements along O'Brien Drive to construct a portion of public sidewalk. The Proposed Project would close two driveways, which would improve sidewalk continuity and pedestrian safety by reducing vehicular and pedestrian conflicts. Within the site, pedestrian walkways would be incorporated around the building to connect the site with the public streets.
Circ-2.1: **Accommodating All Modes.** Plan, design, and construct transportation projects to accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities safely.	***Consistent.*** The Proposed Project would plan, design, and construct site access and circulation to provide safe access for, bicyclists, pedestrians, transit riders, drivers, people with mobility challenges, and people of all ages and abilities. The Proposed Project would add a sidewalk along its frontage on O'Brien Drive where no sidewalk exists today. The Proposed Project would provide a pedestrian path with stairs connecting the entry lobby of the building with the sidewalk on O'Brien Drive. A pedestrian walkway is also planned along the north side of the building, connecting to the accessory parking lot on Parcel 2. The Project proposes a shuttle stop duck-out in front of the building on O'Brien Drive, allowing drivers in vehicles, including shuttles, to drop off and pick up passengers. A shuttle stop is proposed along the Project frontage at the duck-out.
Circ-2.2: Livable Streets. Ensure that transportation projects preserve and improve the aesthetics of the city.	***Consistent.*** The Proposed Project would plan, design, and construct site improvements that preserve and improve the aesthetics of the site.
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 Transportation Master Plan.	***Consistent.*** The Proposed Project would provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate design and maintenance. The Proposed Project would provide safe and convenient access for bicyclists and pedestrians and improve safety through design efforts, including the provision of short- and long-term on-site bicycle parking as well as pedestrian walkways around the building to connect the site with the public streets.
Circ-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.	***Consistent.*** The Proposed Project would not introduce features that would preclude or interfere with pedestrian access at signalized intersections.

Plan/Ordinance/Policy	Project Consistency
Circ-2.11: Design of New Development. Require new development to incorporate a design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.	***Consistent.*** The Proposed Project would plan, design, and construct site access and circulation improvements to provide safe and convenient access for bicyclists, pedestrians, transit riders, drivers, people with mobility challenges, and people of all ages and abilities.
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 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.	***Consistent.*** The Proposed Project is evaluated in this EIR for impacts on safety through an assessment of site access and circulation for all modes and for impacts on VMT as well as emergency response times. As discussed, impacts on VMT would be considered less than significant with mitigation (implementation of a TDM program achieving a 34% active TDM trip reduction) Impacts on safety would be considered less than significant. The Proposed Project would implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the Project site. The Proposed Project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles.
Circ-3.1: Vehicle Miles Traveled. Support development and transportation improvements that help reduce vehicle miles traveled per service population (or other efficiency metric).	***Consistent.*** The Proposed Project would develop a new R&D building that would locate employees near existing and planned residential and commercial uses, reducing the demand for travel by single-occupancy vehicles and VMT to and from the Project site. The Proposed Project would also develop and implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the Project site. In addition, the Proposed Project would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single-occupancy vehicles.
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.	***Consistent.*** Almost half of the Proposed Project's projected operational emissions are associated with vehicle trips to and from the Project site. These mobile-source emissions are expected to become progressively lower emitting in future years from fleet turnover, more electric vehicles, and increasing stringency with respect to motor vehicle emission regulations. The Proposed Project includes EV spaces to further encourage the use of EV vehicles and will be required to implement a TDM plan to reduce GHG emissions.

Plan/Ordinance/Policy	Project Consistency
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 stop delay on local approaches to State-controlled signalized intersections does not exceed LOS E	***Consistent.*** The Proposed Project is evaluated for compliance with the LOS policy. As summarized in the TIA, some intersections surrounding the Project site would exceed the applicable LOS level under existing, near-term, near-term plus-Project, and cumulative conditions. However, the Proposed Project would pay TIF and fair-share payments and/or construct improvements to address its contribution to deficiencies. LOS is no longer a metric for an impact under CEQA; this analysis is provided for informational purposes.
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, such as transit, to reduce greenhouse gas emissions.	***Consistent.*** The Proposed Project would develop and implement a TDM plan and provide bicycle and pedestrian facilities that would encourage safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower-emission modes, such as transit, which would reduce GHG emissions.
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.	***Consistent.*** The Proposed Project would develop and implement a TDM plan and provide bicycle and pedestrian facilities to promote non-motorized transportation and reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.
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.	***Consistent.*** The Proposed Project would develop and implement a TDM plan and provide bicycle and pedestrian facilities to promote active lifestyles and active transportation, focusing on the role of walking and bicycling to improve public health and lower obesity.
Circ-4.4: Safety. Improve traffic safety by reducing speeds and making drivers more aware of other roadway users.	***Consistent.*** The Proposed Project would include dedication of easements along O'Brien Drive to construct a portion of the public sidewalk. Within the site, pedestrian walkways would be incorporated around the office building that would connect to public streets and be constructed to increase visibility of people walking and improve traffic safety.

Plan/Ordinance/Policy	Project Consistency
Circ-5.2: **Transit Proximity to Activity Centers**. Promote the clustering of as many activities as possible within easy walking distance of transit stops and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.	***Consistent.*** The Proposed Project is within 0.25 mile of bus stops servicing the Dumbarton Express lines, SamTrans Route 81, and Willow Road shuttles.
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.	***Consistent.*** The C/CAG has guidelines for a TDM program. The Proposed Project would meet the required C/CAG trip reduction by implementing the TDM measures included in the TDM plan. The travel demand forecast traffic model developed for the TIA was also based on coordination with the transportation agencies referenced below as well as in the TIA. 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 the Santa Clara Valley Transportation Authority (VTA) for use within San Mateo and Santa Clara Counties. The City has further refined this model for application within Menlo Park to add more detail to the zone structure and transportation network.
Circ 6.3: Shuttle Service. Encourage increased shuttle service between employment centers and the downtown Menlo Park Caltrain station.	***Consistent.*** There are existing Caltrain shuttle stops within walking distance of the Project site. The Proposed Project would add a shuttle stop duck-out in front of the building on O'Brien Drive to allow drivers in vehicles, including shuttles, to drop off and pick up passengers. This new shuttle stop provides a convenient location for employees and visitors to access the Menlo Business Park's (free) shuttle system.
Circ-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.	***Consistent.*** The Proposed Project would develop and implement a TDM plan that includes measures to encourage employees to walk, bike, carpool, and use transit.
City of Menlo Park Transportation Master Plan	***Consistent.*** The Proposed Project would not include any modifications that would conflict with projects and recommendations identified in the Transportation Master Plan. At locations where the Proposed Project would cause an intersection to operate in non-compliance with Menlo Park General Plan Policy Circ-3.4, modifications are identified consistent with recommendations identified in the Transportation Master Plan.
City of Menlo Park Municipal Code, Section 16.44.090, LS Life Sciences District	***Consistent.*** The Proposed Project would develop and implement a TDM plan that would reduce vehicle trips to at least 20 percent below standard generation rates for uses on the Project site and include an online kiosk with transportation information, long-term bicycle parking spaces in secured bike storage rooms, short-term bicycle parking spaces outdoors, subsidized transit tickets, showers and changing rooms, and new sidewalks with street trees along the Project site perimeter.
City of Menlo Park Transportation Impact Fee	***Consistent.*** The Proposed Project would be subject to the TIF and required to contribute to the cost of new transportation infrastructure associated with the development.

As part of the City's entitlement process, the Proposed Project would be required to comply with existing regulations, including general plan policies and zoning regulations. The Proposed Project would be reviewed in accordance with the transportation program standards and guidelines of the City Public Works Department, which would provide oversight and an engineering review to ensure that the Proposed Project would be constructed according to City specifications.

The Proposed Project would provide adequate bicycle and pedestrian infrastructure. It would represent an overall improvement with respect to bicycle and pedestrian access and circulation. In addition, the Proposed Project would include the dedication of easements along O'Brien Drive to construct a portion of the public sidewalk. Within the site, bicycle facilities and pedestrian walkways would be incorporated around the office building. The Proposed Project would promote bicycle use by providing long-term and short-term bicycle parking spaces as well as showers/changing rooms.

The Proposed Project would promote transit use by adding a shuttle stop "duck-out" in front of the building on O'Brien Drive and a shuttle stop along the Proposed Project's frontage at the duck-out. This shuttle stop would provide a convenient location for employees and visitors to access the Menlo Business Park's shuttle system.

The Proposed Project would meet zoning ordinance requirements for vehicle and bicycle parking and implement TDM measures in an effort to reduce Project-generated vehicle trips and encourage travel by other modes.

For these reasons, the Proposed Project would be consistent, for CEQA purposes, with applicable plans, ordinances, and policies for the circulation system. This impact would be ***less than significant.***

Impact TRA-2. The Proposed Project would not exceed an applicable VMT threshold of significance (LTS/M)

This section discusses the Proposed Project's impacts related to VMT. As discussed in more detail below, implementation of the Proposed Project without mitigation would exceed an applicable VMT threshold of significance. Implementation of a TDM program, as discussed below, would fully mitigate the impact.

Per the City of Menlo Park VMT guidelines adopted in July 2020 and updated in January 2022, Menlo Park uses the following quantitative thresholds of significance to address the substantial additional VMT significance criterion:

- A residential-type project that would exceed existing regional household VMT per capita minus 15 percent.
- An office-type project that would exceed existing regional employee VMT per capita minus 15 percent.
- A retail-type project that would result in a net increase in total VMT.
- For mixed-use projects, components are analyzed independently against the appropriate threshold.

For the purposes of VMT analysis, the Proposed Project is considered to be an office-type use because travel to the Project site would involve employees, just like an office use.

Project VMT

Table 3.1-5 shows existing regional average daily VMT per employee, the VMT threshold (15 percent below regional average), and the existing VMT for TAZ 3075 (the TAZ in which the Project site is located). It was assumed that office/R&D land uses within the same area would exhibit essentially the same characteristics in terms of VMT, based on their locations.

Table 3.1-2: Existing Average Daily Vehicle Miles Traveled

Land Use	Regional Average	VMT Threshold (15 Percent below Regional Average)	Project Transportation Analysis Zone (TAZ 3075)
Employment (per employee)	15.9	13.6	18.7

Sources: City of Menlo Park. 2020a. *Menlo Park Transportation Impact Guidelines.* June 16; updated in January 2022; City of Menlo Park. 2020b. *Menlo Park Travel Demand Model*.

As shown in Table 3.1-5, the current estimated daily VMT per employee for existing office land uses within the Project site's TAZ is 18.7, which is higher than the regional daily VMT of 15.9 and above the VMT threshold of significance of 13.6. The Proposed Project is assumed to result in VMT of 18.7 without TDM measures. A 27.3 percent reduction in Project VMT would be necessary to reduce VMT below the threshold of significance of 13.6. The estimated Project VMT does not account for the Project's proposed TDM plan. Without any TDM measures, the Proposed Project may cause substantial additional VMT, and impacts would be significant.

As explained above, the Proposed Project would be required to reduce Project trips by 20 percent, pursuant to the Menlo Park Municipal Code. TDM measures that reduce project trips also reduce VMT by a similar, although not identical, amount. A mitigation measure is therefore required to reduce VMT impacts by an additional amount in order to reduce Project VMT by at least 27.3 percent. A TDM plan was prepared for the Proposed Project by Kimley-Horn, Inc. (see Appendix 3.1), to reduce both Project trips and VMT. The TDM plan, which would be required by Mitigation Measure TRA-2.1, includes the following measures:

- Bike storage,
- Showers/changing rooms,
- Subsidized transit passes (Go Pass for Caltrain),
- Commute assistance center with computer kiosk connected to internet,
- Bike-share program,
- Enterprise car-share program,
- Shuttle stop, and
- EV charging stations.

The proposed TDM measures were designed to reduce employee VMT for short-distance, medium-distance, and long-distance trips. Table 3.1-6 categorizes the proposed TDM measures by trip length. Most of the proposed TDM measures could reduce medium to long trips, except for the three short trip measures generally related to bike facilities.

Estimated VMT Reductions

The effectiveness of the TDM plan was evaluated to determine the VMT reduction. The California Air Pollution Control Officers Association (CAPCOA) report, *Quantifying Greenhouse Gas Mitigation Measures*, estimates VMT reduction relative to a project's design features and applicable TDM measures. The Bay Area Air Quality Management District (BAAQMD) released a TDM Tool that assists with calculating VMT reductions due to TDM measures, based on the CAPCOA research. The BAAQMD tool quantifies how much a TDM plan for a specific project in a specific location is likely to reduce VMT.

Table 3.1-3: Proposed TDM Measures and Aimed Trips by Trip Length

Proposed TDM Measures	Aimed Trips
Bike storage	Short trips
Showers/changing rooms	Short trips
Subsidized transit tickets (Go Pass for Caltrain)	Medium to long trips
Commute assistance center	Medium to long trips
Bike-share program	Short, medium, and long trips
Car-share membership	Medium to long trips
Employee-sponsored vanpool/shuttle program	Long trips

The TDM Tool provides an estimate of the amount by which a project's location and land use characteristics, site enhancements, and measures taken to reduce commute trips will reduce VMT. Based on the TDM Tool, with implementation of the proposed TDM measures, the Proposed Project would achieve a 34 percent VMT reduction, which is greater than the 27.3 percent VMT reduction needed.

The VMT reduction was calculated with BAAQMD's TDM Tool and based on the following factors:

- **Pedestrian Network**. The Proposed Project would improve pedestrian facilities by constructing new sidewalks along its frontage (where there are currently no sidewalks) and closing two driveways on O'Brien Drive. Pedestrian walkways would also be provided within the site to access the building and public amenities. The TDM Tool gives the Proposed Project credit for improving pedestrian accommodations on-site and off-site.
- **Car Sharing Program**. The proposed TDM plan includes a car-share program provided by Enterprise, which allows employees of tenants in the business park to gain access to vehicles. The vehicles are located at the corner of O'Brien Drive and Adams Drive, about 0.25 mile from the Project site. This program would allow people to have on-demand access to a shared fleet of vehicles on an as-needed basis, providing a means for alternative-mode commuters to make business/day trips.
- **Subsidized Transit Tickets**. Caltrain Go Passes would be provided to employees at no cost to the employees. The Caltrain Go Pass allows for unlimited rides seven days a week. The cost of the Go Pass is $237.50 per person, but a minimum of $19,950 per employer. A Caltrain Go Pass would be provided to every employee who works 20 hours or more. By providing employees with transit passes, it may encourage employees to utilize transit rather than driving to work.
- **TDM Program with Monitoring and Reporting Requirements**. The TDM Tool provides more credit to TDM programs that include a performance standard (such as a trip reduction goal or VMT reduction goal) and requirements for monitoring and reporting than those that do not. The rationale for this is that if the properties are required to monitor their results and report those results to a city or other authority and if there is a specific target to be achieved, they will take their responsibilities to implement the TDM programs more seriously.
- **Marketing Program for the TDM Plan**. A commute assistance center would be provided with a computer kiosk connected to internet. The building owner would be responsible for providing information about all resources and programs included in the TDM plan to all tenants and distributing new employee information packets to employees when they start work at the site. The TDM Tool provides credit for this level of marketing activity.

- **Employee-Sponsored Vanpool/Shuttle Program**. The Proposed Project would have access to Menlo Park Rides, an existing shuttle service for the Menlo Business Park that is operated by the Project Sponsor. The current nearest shuttle stop to the Project site is north of Casey Court (approximately 0.10 mile north of the Project site); the Project will add a shuttle stop at the duck-out in front of the proposed building. The shuttle system provides commuters access to the site from the Union City/Fremont Bay Area Rapid Transit (BART) stations, Palo Alto Caltrain station, and various stops in San Francisco. Shuttle service times are coordinated with train schedules in order to ensure efficient commuter experience and minimal wait times. It should be noted that this is an existing shuttle service. In case there are any changes that would adversely affect the availability of this service in the future, the Proposed Project should fund Menlo Park Rides or sponsor its own vanpool or shuttle program, as needed, to provide equivalent service to employees on the Project site.

The BAAQMD TDM Tool calculates a plan's total VMT reduction to ensure that similar measures are not double counted and account for whether a project is located in an urban or suburban setting. As noted above, the TDM Tool estimates that implementation of the proposed TDM measures together with the Proposed Project's location and land use characteristics, as well as its site enhancements, would achieve more than the required 27.3 percent reduction in VMT. The output from the BAAQMD TDM Tool is shown in Figure 3.1-3. As mentioned previously, a similar nearby project owned by the same Project Sponsor has implemented a TDM plan and achieved a VMT reduction of between 32 and 40 percent. Therefore, a 34 percent VMT reduction for the Proposed Project's TDM plan, as estimated by BAAQMD's TDM Tool, is feasible. As shown in Table 3.1-5, the current estimated daily VMT per employee for existing office land uses within the Project site's TAZ is 18.7, which is higher than the regional average daily VMT of 15.9 and above the threshold of significance of 13.6. Therefore, the Proposed Project would result in a significant impact without implementation of the TDM plan or other mitigation.

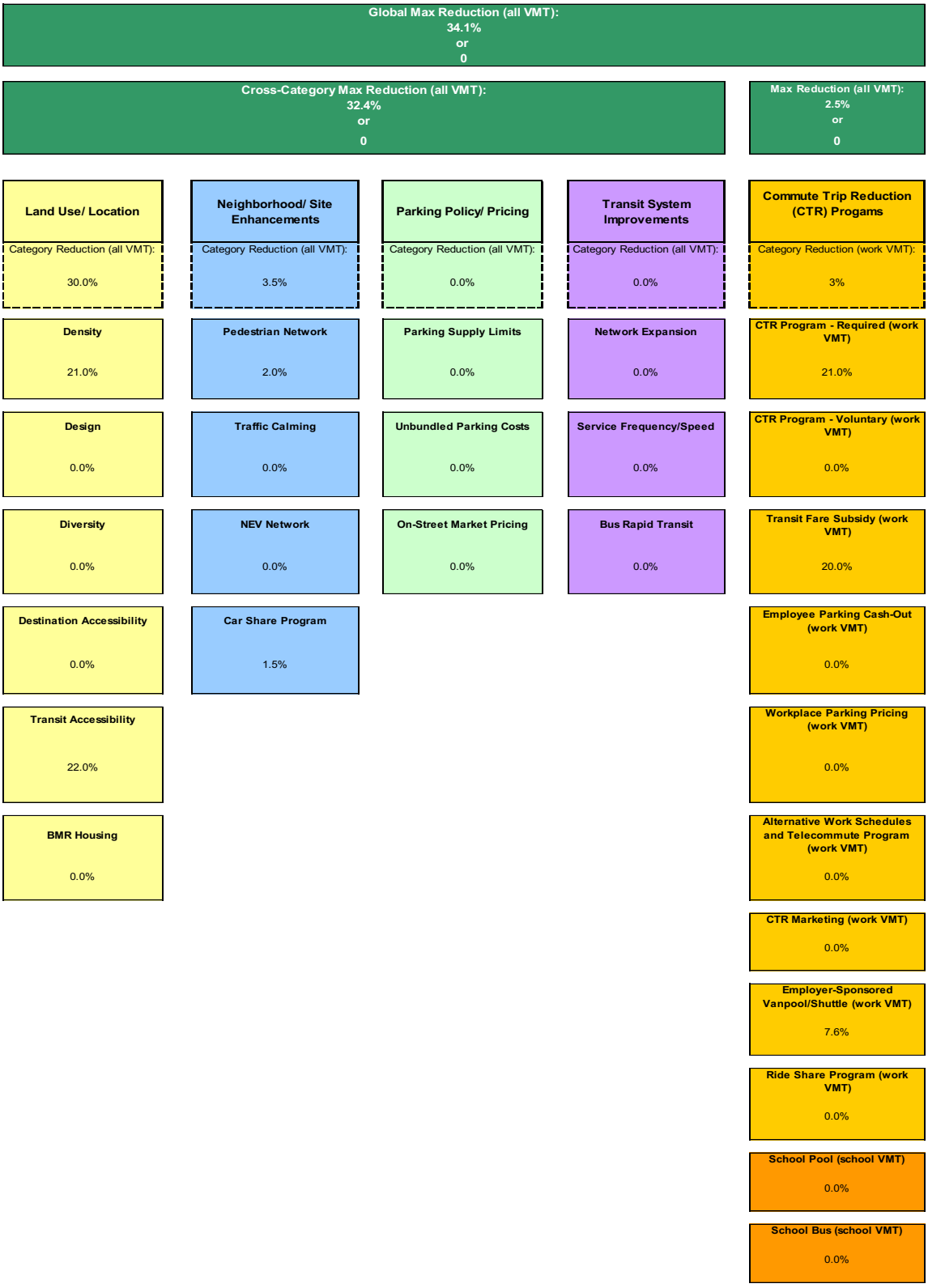
MITIGATION MEASURE. The BAAQMD TDM Tool estimates VMT generated by the Proposed Project with implementation of the proposed TDM measures. Considering the Proposed Project's land use characteristics and its site enhancements, VMT generated by the Proposed Project would be 12.3 after implementation of Project Mitigation Measure TRA-2.1. This would be below the City's threshold of 13.6. Therefore, the impact would be ***less than significant with mitigation***.

TRA-2.1 Prior to issuance of a certificate of occupancy, the Project Sponsor shall obtain City approval for a final TDM plan. The Proposed Project will be required to implement the TDM plan included in Appendix 3.1 of this EIR. Annual monitoring and reporting, as required pursuant to Menlo Park Municipal Code Section 16.44.090(2)(B), will be required to ensure that a 27.3 percent (minimum) reduction in VMT is achieved annually for the life of the Proposed Project.

Impact TRA-3. The Proposed Project would not substantially increase hazards due to a design feature or incompatible uses (LTS)

This section discusses the potential of the Proposed Project to substantially increase hazards due to a design feature or incompatible use. For purposes of CEQA, the term *hazards* refers to the engineering aspects of a project (e.g., speeds, turning movements, complex designs, distances between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This analysis focuses on hazards that could reasonably stem from the Proposed Project itself, beyond collisions that may result from aforementioned non-engineering aspects

Figure 3.1-3. BAAQMD TDM Tool Output



or the transportation system as a whole. Therefore, the methodology qualitatively addresses the potential for the Proposed Project to exacerbate an existing or create a new potentially hazardous condition for people bicycling, walking, or driving or for public transit operations. The Proposed Project would not involve any changes to the roadway network outside the Project limits, and the Proposed Project would not include any design features that could cause potentially hazardous conditions. The Proposed Project would add sidewalks along its frontage on O'Brien Drive and close two driveways. Pedestrian walkways would also be provided within the site and between Parcel 1 and Parcel 2 to access the building and public amenities. The Proposed Project would provide full-access driveways on O'Brien Drive and Casey Court. The driveway designs would comply with applicable standards and therefore would not present hazards.

The Proposed Project would provide adequate bicycle and pedestrian infrastructure and represent an overall improvement to bicycle and pedestrian access and circulation. The Proposed Project would not generate activities that would create potentially hazardous conditions for people bicycling, walking, or driving or for public transit operations. In addition, as with current practice, the Proposed Project would be designed and reviewed in accordance with the transportation program of the City's Public Works Department, which would provide oversight engineering review to ensure that the Proposed Project would be constructed according to City specifications. For these reasons, the Proposed Project would have a ***less-than-significant*** impact with respect to design features or incompatible uses.

Impact TRA-4. The Proposed Project would not result in inadequate emergency access (LTS)

This section discusses the potential of the Proposed Project to result in inadequate emergency access. As described below, the Proposed Project would not result in inadequate emergency access. Emergency access to the Project site and nearby hospitals would be similar to existing conditions. Menlo Park Fire District Station 77 is located on Chilco Street, approximately 1.2 miles north of the Project site. Although there would be a general increase in vehicle traffic from the Proposed Project, the Proposed Project would not inhibit emergency access to the Project site or materially affect emergency vehicle response out of the station. Development of the Project site, and associated increases in the number of vehicles, bicycles, and pedestrians, would not substantially affect emergency vehicle response times or access to other buildings or land uses in the area or hospitals. The Proposed Project would be designed and built according to local fire district standards and the State building code. The City's engineering and building departments, as well as the Menlo Park Fire Protection District, would review the Proposed Project design for compliance with the zoning ordinance, building code, engineering standards, and fire code. This review would further ensure that emergency access by fire or emergency services personnel would not be impaired. For these reasons, the Proposed Project would have a ***less-than-significant-impact*** with respect to emergency access or circulation.

Cumulative Impacts

Impact C-TRA-1: The Proposed Project in combination with other foreseeable projects would not conflict with an applicable plan, ordinance, or policy, including the CMP, concerning all components of the circulation system. (LTS)

Future development would be required to comply with existing regulations, including the general plan policies and zoning regulations that have been prepared to minimize impacts related to transportation and circulation. The City, throughout the 2040 buildout horizon, would implement general plan programs that require the City to update the Capital Improvement Program annually 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 standards (e.g., collision rates), amongst others. Furthermore, implementation of zoning regulations would support adequate facilities and access to transportation. Future development would be consistent with the City's Transportation Master Plan. For these reasons, the Proposed Project in combination with cumulative projects would have a ***less-than-significant*** cumulative impact with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle facilities, or pedestrian facilities.

Impact C-TRA-2: The Proposed Project in combination with other foreseeable projects would not exceed an applicable VMT threshold of significance. (LTS)

Consistent with OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*,[15] 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 (i.e., by applying per capita and per employee VMT standards) that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from a project impact.

ConnectMenlo accounted for the future development of the Project area as well as the entire city; its cumulative effects were considered in the ConnectMenlo Final EIR. The Proposed Project is consistent with 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, which is expected to reduce VMT per employee within the study area where the Project site is located. Consistent with the findings of the ConnectMenlo Final EIR, cumulative impacts with respect to VMT would be ***less than significant*** because the Proposed Project along with other foreseeable projects in Menlo Park would implement General Plan programs that support and implement the General Plan policies that are aimed at reducing vehicular trips.

Impact C-TRA-3: The Proposed Project in combination with other foreseeable projects would not substantially increase hazards due to a design feature or incompatible uses. (LTS)

Overall, cumulative land use development and transportation projects would promote accessibility for people walking to and through the site by conforming to general plan policies and zoning regulations and by adhering to planning principles that emphasize providing convenient connections and safe routes for people bicycling, walking, driving, and taking transit. In addition, as with current practice, projects would be designed and reviewed in accordance with the transportation program of the City's Public Works Department, which would provide oversight and engineering review to ensure that projects are constructed according to City specifications. As a result, cumulative projects would not generate activities that would increase hazards due to a design feature or incompatible use. For these reasons, the Proposed Project in combination with cumulative projects would have a ***less-than-significant*** cumulative impact with respect to design features or incompatible uses.

[15] Governor's Office of Planning and Research. 2018, op. cit.

Impact C-TRA-4: The Proposed Project in combination with other foreseeable projects would not result in inadequate emergency access. (LTS)

Future development, as part of the City's project approval process, would be required to comply with existing regulations, including general plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access. The City, throughout the 2040 buildout horizon, would implement the general plan programs that require the City's continued coordination with the Menlo Park Police Department and the Menlo Park Fire Protection District to establish circulation standards, adopt an emergency response routes map, and equip all new traffic signals with pre-emptive devices for emergency services. Furthermore, implementation of the zoning regulations would help to minimize traffic congestion that could affect emergency access. For these reasons, the Proposed Project in combination with cumulative projects would have a ***less-than-significant*** cumulative impact with respect to emergency access.

Transportation Analysis of Waterline Upgrades

As described in Chapter 2, *Project Description,* and in the 1350 Adams Court EIR,[16] the existing 10-inch water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams Court property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may develop before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the waterlines as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

The EIR for the 1350 Adams Court Project found that the waterline upgrades would not have a significant transportation impact and no waterline construction-related mitigation measures were identified. As a condition of approval, a traffic control plan would be required for any sidewalk or street/lane closures during construction of the waterline upgrades. Therefore, the EIR for the 1350 Adams Court project found that the impact of the waterline upgrades would be ***less than significant.***

Non-CEQA Analysis

Intersection LOS Analysis

The findings of the intersection LOS compliance analysis are presented in this section for informational purposes. The scope and methodology, analysis scenarios, data collection, and LOS policy standards are detailed in Appendix 3.1 of this EIR.

As stated above, LOS is no longer a CEQA threshold. However, the City's TIA Guidelines require that the TIA also analyze LOS for local planning purposes. The LOS analysis would determine whether the Proposed Project's traffic would cause an intersection's LOS to exceed the City's LOS thresholds or cause

[16] City of Menlo Park. 2022. *1350 Adams Court EIR*. Section 3.1, Transportation. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

either the average delay or average critical delay to exceed the City's intersection delay thresholds under near-term and cumulative conditions. The LOS and delay thresholds vary, depending on the street classifications as well as whether the intersection is on a State route or not. The City's TIA Guidelines further require an analysis of the Proposed Project in relation to relevant policies of the Circulation Element and consideration of specific measures to address non-compliance with local policies that may occur as a result of the addition of the Proposed Project's traffic. The TIA identifies measures that could be applied as conditions of approval to bring operations back to pre-Project levels. Although not included in the TIA for purposes of this EIR, an analysis may be prepared separately to determine if there are potential measures that could bring the Proposed Project into conformance with Circulation Policy 3.4 (i.e., strive to maintain acceptable LOS at all City-controlled intersections). Implementation of any such measures would require review and approval by City decision-makers.

Near-Term (2025) Plus-Project Conditions

The results of the intersection LOS analysis under near-term (2025) plus-Project conditions are summarized in Table 5 of Appendix 3.1. Under near-term plus-Project conditions, the following four intersections would be non-compliant with respect to local policies during either the AM or the PM peak hour compared to near-term conditions:

- **Intersection #1:** Willow Road (SR-114) and O'Brien Drive (Menlo Park)– AM and PM peak hours
- **Intersection #3:** Willow Road (SR-114) and US 101 northbound ramps (Caltrans) – PM peak hour
- **Intersection #4:** Willow Road (SR-114) and US 101 southbound ramps (Caltrans) – PM peak hour
- **Intersection #5:** O'Brien Drive and Kavanaugh Drive (unsignalized) (Menlo Park) – PM peak hour

Intersection effects and recommended modifications to bring the intersections to pre-Project conditions are described below.

#1 Willow Road (SR-114) and O'Brien Drive

This intersection is expected to operate at an unacceptable LOS F during both peak hours under near-term (2025) conditions. The addition of Project traffic would cause the critical movement delay on the local northbound shared left-right movement to increase by more than 0.8 second during both peak hours. This constitutes non-compliance, according to the thresholds established by the City of Menlo Park. The unacceptable LOS is due primarily to the existing congestion on Willow Road. The City of Menlo Park is implementing a traffic signal adaptive coordination system on the Willow Road corridor to improve traffic flow. Adaptive traffic control is a technology that automatically adjusts traffic signal timing, based on actual traffic demand at an intersection. This measure will improve intersection operations and could reduce intersection delay. It is expected that this improvement would reduce the critical movement delay on the local approach and avoid the adverse effect during the AM peak hour. However, the reduction in delay due to adaptive signal coordination is not expected to be enough to avoid the adverse effect of the Proposed Project at this intersection during the PM peak hour or bring the intersection into compliance with the City's LOS policy. Other possible physical intersection improvements are considered infeasible because of right-of-way constraints and/or adverse effects on bicycle and pedestrian travel. The Proposed Project would pay traffic impact fees according to the City's current TIF schedule, which could be used to contribute to other transportation improvements in the area.

#3 Willow Road (SR-114) and US 101 Northbound Ramps

This intersection is expected to operate at an unacceptable LOS F during both peak hours under near-term (2025) conditions. The addition of Project traffic would cause the delay at this intersection to increase by more than 4 seconds during the PM peak hour. This constitutes non-compliance, according to the thresholds established by Caltrans. The delay at this intersection is due to the congestion on Willow Road. The City of Menlo Park is implementing a traffic signal adaptive coordination system on the Willow Road corridor to improve traffic flow. Adaptive traffic control is a technology that automatically adjusts traffic signal timing, based on actual traffic demand at an intersection. This measure will improve intersection operations and could reduce intersection delay. The reduction in delay due to adaptive signal coordination is not expected to bring the intersection into compliance with the Caltrans' LOS policy. Other physical intersection improvements are considered infeasible because of right-of-way constraints and/or adverse effects on bicycle and pedestrian travel. The Proposed Project would pay traffic impact fees according to the City's current TIF schedule, which could be used to fund to other transportation improvements in the area.

#4 Willow Road (SR-114) and US 101 Southbound Ramps

This intersection is expected to operate at an unacceptable LOS F during both peak hours under near-term (2025) conditions. The addition of Project traffic would cause the delay at this intersection to increase by more than 4 seconds during the PM peak hour. This constitutes non-compliance, according to the thresholds established by Caltrans. The delay at this intersection is due to the congestion on Willow Road. The City of Menlo Park is implementing a traffic signal adaptive coordination system on the Willow Road corridor to improve traffic flow. Adaptive traffic control is a technology that automatically adjusts traffic signal timing, based on actual traffic demand at an intersection. This measure will improve intersection operations and could reduce intersection delay. The reduction in delay due to adaptive signal coordination is not expected to bring the intersection into compliance with the City's LOS policy. Other physical intersection improvements are considered infeasible Because of right-of-way constraints and/or adverse effects on bicycle and pedestrian travel. The Proposed Project would pay traffic impact fees according to the City's current TIF schedule, which could be used to fund other transportation improvements in the area.

#5 O'Brien Drive and Kavanaugh Drive

This intersection is expected to operate at an acceptable LOS B during the AM peak hour and an unacceptable LOS D during the PM peak hour under near-term conditions. The addition of Project traffic would cause the average critical delay to increase by more than 0.8 second during the PM peak hour. This constitutes non-compliance, according to the thresholds established by the City of Menlo Park.

Because the intersection currently operates as all-way stop-controlled intersection, a potential modification to bring the intersection to pre-Project conditions would be to signalize it. However, the intersection would not meet the MUTCD signal warrant during either peak hour under Project conditions (see Appendix F). The intersection lane configuration could be modified to include additional turn lanes. However, this would not result in an improvement in average critical delay, and the intersection would continue to be non-compliant. Other physical intersection improvements are considered infeasible because of right-of-way constraints and/or adverse effects on bicycle and pedestrian travel. The Proposed Project would pay traffic impact fees according to the City's current TIF schedule, which could be used to fund other transportation improvements in the area.

Cumulative (2040) Conditions, Intersection LOS

The intersection LOS calculation sheets are included in Appendix 3.1. The results of the intersection LOS analysis under cumulative (2040) plus-Project conditions are summarized in Table 7 in Appendix 3.1. Under cumulative (2040) plus-Project conditions, the following five intersections would be non-compliant with local policies during either the AM or the PM peak hour compared to cumulative (2040) conditions:

- **Intersection #1:** Willow Road (SR-114) and O'Brien Drive (Menlo Park) – PM peak hour
- **Intersection #2:** Willow Road (SR-114) and Newbridge Street (Menlo Park) – AM peak hour
- **Intersection #3:** Willow Road (SR-114) and US 101 northbound ramps (Caltrans) –PM peak hour
- **Intersection #4:** Willow Road (SR-114) and US 101 southbound ramps (Caltrans) –PM peak hour
- **Intersection #5:** O'Brien Drive and Kavanaugh Drive (unsignalized) (Menlo Park) – AM and PM peak hours

Adverse effects and recommended improvements for the additional intersections that are non-compliant under cumulative conditions are described below.

#2 Willow Road (SR 104) and Newbridge Street

This intersection is expected to operate at an unacceptable LOS F during the AM and PM peak hours under cumulative (2040) conditions. The addition of Project traffic would cause the critical movement delay on the local northbound through movement to increase by more than 0.8 second during the AM peak hour. This constitutes non-compliance, according to the thresholds established by the City of Menlo Park.

The Willow Road Corridor Improvement Project in the City's Transportation Master Plan and the City's TIF recommends modifying the signal timing to a protected left-turn phasing operation on Newbridge Street, providing a leading left-turn phase on southbound Newbridge Street and a lagging left-turn phase on northbound Newbridge Street, and optimizing signal timing. Although this modification would improve overall operation of the intersection, it would not address the deficiency caused by the Proposed Project on the local approaches to the intersection, according to the thresholds established by the City of Menlo Park.

Other physical intersection improvements are considered infeasible because of right-of-way constraints and/or adverse effects on bicycle and pedestrian travel. The Proposed Project would pay traffic impact fees according to the City's current TIF schedule to contribute to other transportation improvements in the area.

#5 O'Brien Drive and Kavanaugh Drive

This intersection is expected to operate at an unacceptable LOS F during both peak hours under cumulative conditions. With the addition of Project traffic, the intersection would continue to operate at an unacceptable LOS F during both peak hours, with an increase in average critical delay of more than 0.8 second. This constitutes non-compliance during both peak hours, according to the thresholds established by the City of Menlo Park.

Because the intersection currently operates as all-way stop-controlled intersection, a potential modification to bring the intersection to pre- Project conditions would be to signalize it. The intersection would meet the MUTCD signal warrant during both peak hours under cumulative no-Project and cumulative plus-Project conditions (see Appendix 3.1). Along with a new traffic signal, appropriate bicycle and pedestrian accommodations should be provided at this intersection. This includes proposed Class II bicycle lanes along O'Brien Drive between Willow Road and University Avenue, pedestrian countdown timers, ADA-compliant curbs, and bicycle detection loops. With these improvements, the intersection would operate acceptably at LOS C during both peak hours under cumulative plus-Project conditions. However, a decision for signalization should not be made until signal warrants with a future year's actual counts have been met. It is important to note that the intersection would be approximately 300 feet west of the proposed roundabout at O'Brien Drive and the Willow Village Loop Road. Prior to a decision for signalizing this intersection, further analysis should be conducted to ensure that queues resulting from the signal would not back into the roundabout and cause a gridlock situation. The Proposed Project would reduce its adverse effect on traffic operations at this intersection through a fair-share contribution for the signal improvements.

3.2 Air Quality

This section describes the environmental and regulatory setting for air quality. It also describes impacts related to air quality that would result from implementation of the Proposed Project and mitigation for significant impacts where feasible and appropriate. This section has been prepared using methods and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).[1] It describes existing air quality in the region, the Proposed Project's contribution to localized concentrations of carbon monoxide (CO), impacts from vehicular emissions that have regional effects, and the exposure of sensitive receptors to Project-generated toxic air contaminants (TACs). A health risk assessment (HRA) was also performed; the HRA is included in this section. The emission calculations and modeling data used to support the analyses are provided in Appendix 3.2.

No comments regarding air quality were received in response to the Notice of Preparation (Appendix 1-2). Greenhouse gas (GHG) emissions are evaluated in Section 3.3.

Existing Conditions

Environmental Setting

This section provides a discussion of existing conditions related to air quality in the study area. The information below is drawn from the relevant oversight agencies, which are BAAQMD, the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA). The Project area is within the larger San Francisco Bay Area Air Basin (SFBAAB); the air basin comprises the study area for the Proposed Project.

Ambient air quality in the study area is affected by climatological conditions, topography, and the types of pollutants emitted and the amounts. The following discussion describes the relevant characteristics of the SFBAAB, notes the key pollutants of concern, summarizes existing ambient pollutant concentrations, and identifies sensitive receptors.

Regional Climate and Meteorology

Menlo Park is in the southern part of the SFBAAB, a large, shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist.[2] One is the strait known as the Golden Gate, a direct outlet to the Pacific Ocean. The second extends to the northeast, along the West Delta region of the Sacramento and San Joaquin Rivers.

Menlo Park is within the jurisdiction of BAAQMD, which regulates air quality in the San Francisco Bay Area (Bay Area). Air quality conditions in the Bay Area have improved significantly since BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither state nor national ambient air quality standards for nitrogen dioxide (NO_2), sulfur dioxide (SO_2), sulfates, lead, hydrogen sulfide, or

[1] Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 14, 2021.

[2] An atmospheric outlet is a gap between land formations that allows air to flow in and out of an area.

vinyl chloride have been violated in recent decades. Exceedances of air quality standards that do occur happen primarily during periods when meteorological conditions are conducive to high levels of pollution, such as cold, windless nights or hot, sunny summer afternoons.

Air quality is a function of both the local climate and the local sources of air pollution. Local sources of air pollution typically result from human activities, which involve both mobile and stationary sources, or natural processes, such as wildfires. Air quality reflects the balance between the natural dispersal capacity of the atmosphere and the emissions of air pollutants from human activities or naturally occurring processes. Two meteorological factors affect air quality in Menlo Park: wind and temperature. Winds affect the direction of transport for air pollution emissions; winds also control the volume of air into which the pollution is mixed over a given period of time. Although winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

Menlo Park is located in San Mateo County, which lies in the middle of the San Francisco Peninsula, south of San Francisco County and north of Santa Clara and Santa Cruz Counties. San Mateo County is bounded by the Pacific Ocean to the west and San Francisco Bay to the east. Cool, foggy weather is prevalent along the west coast of the peninsula, particularly during the summer. Summertime average daily temperatures are moderate along the west coast and warm on 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 along the west coast. Rainfall averages about 20 to 25 inches per year at lower elevations and up to 36 inches in the Santa Cruz Mountains.[3]

Ozone (O_3) and fine particle pollution (i.e., particulate matter no more than 2.5 microns in diameter, or $PM_{2.5}$) are the major regional air pollutants of concern in the Bay Area. O_3 is primarily a problem in the summer; fine particulate matter ($PM_{2.5}$) is the primary problem in the winter.[4] In San Mateo County, O_3 levels almost never exceed health standards. $PM_{2.5}$ concentrations exceed the national standard about 1 day each year. San Mateo County frequently receives fresh marine air from the Pacific Ocean. The air passes over the coastal hills as it moves into the county. In winter, $PM_{2.5}$ may be transported into San Mateo County from other parts of the Bay Area. $PM_{2.5}$ may combine with smoke from wood, which may lead to elevated concentrations. However, the concentrations are rarely high enough to exceed health standards.[5]

Pollutants of Concern

Occupants of facilities such as schools, day-care centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered more sensitive to air pollutants than the general public because of their increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences and have a greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared with commercial and industrial uses because of the greater exposure to ambient air quality conditions associated with exercise. These populations are referred to as *sensitive receptors*. Air pollutants and their health effects, as well as other air pollution–related considerations, are summarized in Table 3.2-1 and described in more detail below.

[3] Bay Area Air Quality Management District. 2019. *Climate and Air Quality in San Mateo County*. Available: https://www.baaqmd.gov/about-the-air-district/in-your-community/san-mateo-county. Accessed: April 14, 2021.

[4] Ibid.

[5] Ibid.

Table 3.2-1. Sources and Health Effects of Air Pollutants

Pollutant	Sources	Primary Effects
Ozone (O_3)	• Precursor sources (e.g., motor vehicles, industrial emissions, consumer products).[a]	• Respiratory symptoms. • Worsening of lung disease, leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter ($PM_{2.5}$)	• Cars and trucks, especially diesel vehicles. • Fireplaces and wood stoves. • Wildfires. • Windblown dust from roadways, agriculture, and construction.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease. • Asthma-related emergency room visits. • Increased symptoms and increased inhaler usage.
Particulate Matter Less than 10 Microns in Aerodynamic Diameter (PM_{10})	• Cars and trucks, especially diesel vehicles. • Fireplaces and wood stoves. • Wildfires. • Windblown dust from roadways, agriculture, and construction.	• Premature death and hospitalization, primarily from worsening of respiratory disease. • Reduced visibility and material soiling.
Nitrogen Oxides (NO_X)	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Lung irritation. • Enhanced allergic responses.
Carbon Monoxide (CO)	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Chest pain in patients with heart disease. • Headaches. • Light-headedness. • Reduced mental alertness.
Sulfur Oxides (SO_x)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Worsening of asthma (e.g., increased symptoms, increased medication usage, emergency room visits).
Lead (Pb)	• Contaminated soil. • Lead-based paints.	• Impaired mental functioning in children. • Learning disabilities in children. • Brain and kidney damage.
Toxic Air Contaminants (TACs)	• Cars and trucks, especially diesel vehicles. • Industrial sources, such as chrome platers. • Neighborhood businesses, such as dry cleaners and service stations. • Building materials and products.	• Cancer. • Reproductive and developmental effects. • Neurological effects.

Source: California Air Resources Board. 2021a. *Common Air Pollutants*. Available: https://ww2.arb.ca.gov/resources/common-air-pollutants. Accessed: April 14, 2021.

Notes:

[a] O_3 is not generated directly by these sources (reactive organic gases and nitrogen oxides). Rather, precursor pollutants from these sources react with sunlight to form O_3 in the atmosphere.

Criteria Air Pollutants

Both state and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, O_3, NO_2, SO_2, lead, and suspended particulate matter. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and lead are considered local pollutants and tend to accumulate in the air locally but become dispersed and diluted beyond a relatively short distance.

Ozone

O_3, a secondary air pollutant, is produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases and nitrogen oxides (ROG and NO_X). The main sources of ROG and NO_X, often referred to as O_3 precursors, are combustion processes, including combustion processes in motor vehicle engines, and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the largest source of O_3 precursors. O_3 is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with O_3 production through photochemical reactions. O_3 causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

CO, an odorless, colorless gas, is usually formed as the result of incomplete combustion in fuels. The largest source of CO is the motor vehicle. CO transport is limited; it disperses with distance from a source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels and adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections that operate at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Particulate Matter

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from man-made and natural sources. Particulate matter is categorized according to two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulate matter through tailpipe emissions as well as brake and tire wear; travel over paved and unpaved roads also results in particulate matter in the form of suspended dust particles. Fireplaces and stoves that burn wood, industrial facilities, and construction involving ground-disturbing activities are other sources of such fine particulates, which are small enough to be inhaled into the deepest parts of the human lung and cause adverse health effects. According to CARB, studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Studies of children's health in California have demonstrated that particle pollution may

significantly reduce lung function in children.[6] Statewide attainment of particulate matter standards could reduce the number of premature deaths, hospital admissions for cardiovascular and respiratory disease, asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide

NO_2, a reddish-brown gas, is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to O_3 formation, NO_2 also contributes to other pollution problems, including high concentrations of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on days with high levels of pollution, especially in conjunction with high O_3 levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless acidic gas with a strong odor. It is produced from the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

Lead

Lead, a metal, is found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of EPA regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and the levels of lead in the air have decreased dramatically.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. Potential TAC-related health effects include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs, with varying degrees of toxicity. Individual TACs vary greatly with respect to the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards but are regulated by EPA and CARB. In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB completed a risk management process that identified potential cancer risks for a range of activities and land uses that are affected by the use of diesel-fueled engines.[7] High-volume freeways, stationary diesel engines, and facilities that

[6] California Air Resources Board. 2021c. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10}).* Available: https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health. Accessed: April 14, 2021.

[7] California Air Resources Board. 2000a. *Fact Sheet: California's Plan to Reduce Diesel Particulate Matter Emissions*. October. Available: https://ww3.arb.ca.gov/diesel/factsheets/rrpfactsheet.pdf. Accessed: April 14, 2021.

attract constant and heavy volumes of diesel vehicle traffic (e.g., distribution centers, truck stops) were identified as areas that pose the highest risk for adjacent receptors. Other facilities associated with increased risks include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both the concentration and the duration of exposure. BAAQMD regulates TACs with a risk-based approach that uses an HRA to determine which sources and which pollutants to control as well as the degree of control. An HRA is an analysis in which human exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances in order to provide a quantitative estimate of health risks.[8] As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area.

Monitoring data and emissions inventories of TACs help BAAQMD determine health risks to Bay Area residents. Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (e.g., 1,3-butadiene and benzene) account for a substantial portion of the ambient background risk in the Bay Area.[9] According to BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of reformulated Phase 2 gasoline. Because of this reduction, the calculated average cancer risk, based on monitoring results, has also been reduced.

Unlike TACs emitted from industrial and other stationary sources, most diesel particulate matter (DPM) is emitted from mobile sources, primarily diesel-powered construction and mining equipment, agricultural equipment, truck-mounted refrigeration units, and trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in the urban parts of the Bay Area, and construction equipment typically operates at various locations for only a limited time. As a result, the readily identifiable locations where DPM is emitted in the Bay Area include high-traffic roadways and other areas with substantial truck traffic.

CARB estimated that about 70 percent of the total known cancer related to air toxics is attributable to DPM.[10] Within the Bay Area, BAAQMD found that, of all controlled TACs, emissions of DPM are responsible for about 82 percent of the total ambient cancer risk.[11]

CARB's Diesel Risk Reduction Plan is intended to reduce DPM emissions and associated health risks substantially through the introduction of ultra-low-sulfur diesel fuel, a step that has already been implemented, and cleaner diesel engines.[12] The technology for reducing DPM emissions from heavy-duty

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8 In general, a health risk assessment is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

9 Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 14, 2021.

10 California Air Resources Board. 2021d. *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed: April 16, 2021.

11 Bay Area Air Quality Management District. 2017b. *Final 2017 Clean Air Plan*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: April 16, 2021.

12 California Air Resources Board. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* Available: https://ww2.arb.ca.gov/sites/default/files/classic//diesel/documents/rrpfinal.pdf. Accessed: April 14, 2021.

trucks is well established, and both state and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. CARB's plan also established airborne toxic control measures (ATCMs) for mobile sources, including on-road and off-road vehicles, and stationary sources. With implementation of ATCMs, statewide DPM concentrations decreased from approximately 1.8 micrograms per cubic meter (μg/m^3) to approximately 0.61 μg/m^3 between 1990 and 2012, resulting in a 66 percent reduction over that period.[13] CARB continues to explore strategies to reduce DPM emissions through engine retrofits, cleaner diesel fuel, advanced engine technologies, and alternative fuels. By 2035, CARB estimates that DPM emissions will be less than half of what they were in 2010.[14]

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably at particular locations in relation to the sources of the air pollutants. Motor vehicle traffic is perhaps the most important source of air pollution in urban areas. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease.[15] Engine exhaust from diesel, gasoline, and other combustion engines is a complex mixture of particles and gases with collective and individual toxicological characteristics. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle type or vehicle pollutant.

Odors

Although offensive odors rarely cause physical harm, they can be unpleasant and lead to considerable distress among the public. This distress often generates citizen complaints to local governments and air districts. According to BAAQMD's *California Environmental Quality Act, Air Quality Guidelines* and CARB's *Air Quality and Land Use Handbook: A Community Health Perspective*, land uses associated with odor complaints typically include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, chemical plants, petroleum refineries, auto body shops, coating operations, fiberglass manufacturing plants, foundries, rendering plants, and livestock operations. BAAQMD provides recommended screening distances for citing new receptors near existing odor sources.

Existing Air Quality Conditions

CARB and EPA maintain ambient air quality monitoring stations within California. The air quality monitoring station closest to the Project site is the 897 Barron Avenue monitoring station in Redwood City, which monitors criteria air pollutants. The air quality trends from this station are used to represent ambient air quality in the Project area. Ambient air quality in the Project area from 2019 to 2021 (the most recent available period) is shown in Table 3.2-2. The pollutants monitored at the Redwood City station are O_3, CO, NO_2, and $PM_{2.5}$. Air quality trends for PM_{10} are not monitored in San Mateo County; therefore, the air quality trends for PM_{10} are from the 158 Jackson Street monitoring station in San José. This is the closest monitoring station to the Project site with available PM_{10} data. Similar to the Redwood City monitoring station, this monitoring station is located in a populated urban environment.

[13] California Air Resources Board. 2021d. *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed: April 16, 2021.

[14] Ibid.

[15] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April. Available: https://ww3.arb.ca.gov/ch/handbook.pdf. Accessed: May 13, 2021.

Table 3.2-2. Ambient Air Quality Data for the Project Area (2019–2021)

Pollutant Standards	2019	2020	2021
Ozone (O_3) at Redwood City station			
Maximum 1-hour concentration (ppm)	0.083	0.098	0.085
Maximum 8-hour concentration (ppm)	0.077	0.077	0.063
Fourth highest 8-hour concentration (ppm)	0.054	0.054	0.059
Number of days standard exceeded			
CAAQS 1-hour standard (> 0.09 ppm)	0	1	0
CAAQS 8-hour standard (> 0.070 ppm)	2	1	0
NAAQS 8-hour standard (> 0.070 ppm)	2	1	0
Carbon Monoxide (CO) at Redwood City station			
Maximum 8-hour concentration (ppm)	1.1	1.5	0.9
Maximum 1-hour concentration (ppm)	2.0	2.1	1.6
Number of days standard exceeded			
NAAQS 8-hour standard (≥ 9 ppm)	0	0	
CAAQS 8-hour standard (≥ 9.0 ppm)	0	0	
NAAQS 1-hour standard (> 35 ppm)	0	0	
CAAQS 1-hour standard (≥ 20 ppm)	0	0	
Nitrogen Dioxide (NO_2) at Redwood City station			
Maximum state 1-hour concentration (ppm)	0.054	0.045	0.040
Annual average concentration (ppm)	0.009	0.008	0.008
Number of days standard exceeded			
CAAQS 1-hour standard (0.18 ppm)	0	0	0
NAAQS 1-hour standard (0.100 ppm)	0	0	0
Particulate Matter (PM_{10}) at Jackson Street station			
Maximum state 24-hour concentration (μg/m³)	77.1	137.1	45.1
Maximum national 24-hour concentration (μg/m³)	75.4	134.9	42.8
National annual average concentration	18.4	24.6	19.6
Measured number of days standard exceeded			
CAAQS 24-hour standard (50 μg/m³)	4	10	
NAAQS 24-hour standard (150 μg/m³)	0	0	
Particulate Matter ($PM_{2.5}$) at Redwood City station			
Maximum state 24-hour concentration (μg/m³)	29.5	124.1	30.1
Maximum national 24-hour concentration (μg/m³)	29.5	124.1	30.1
National annual average concentration	7.0	9.8	6.0
Measured number of days standard exceeded			
NAAQS 24-hour standard (> 35 μg/m³)	0	9	0

Sources:
California Air Resources Board. 2022. *iADAM: Air Quality Data Statistics.* Top 4 Summary. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed: February 2023.
U.S. Environmental Protection Agency. 2022. *Monitor Values Report.* Available: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed: February 2023.

Table 3.2-2 (cont'd.):

Notes:

NAAQS = National Ambient Air Quality Standard; CAAQS = California Ambient Air Quality Standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter

An exceedance is not necessarily a violation.

State statistics are based on local conditions data; state statistics are based on California-approved samplers.

National statistics are based on standard conditions data. In addition, national statistics are based on samplers, using federal reference or equivalent methods.

State criteria for ensuring data are adequate for calculating valid annual averages are more stringent than national criteria.

Existing TAC Sources and Health Risks

BAAQMD maintains an inventory of health risks associated with all permitted stationary sources within the SFBAAB; the inventory is publicly available online.[16] Within 1,000 feet of the Project site, there are four permitted facilities that have a background health risk associated with them. Of the four permitted facilities, three of them are generators; one of them is an exempt chemical processor. Detailed information on these facilities is included in Appendix 3.2. Aside from stationary sources, emissions of TACs around the Project site are also generated from mobile sources and railways. BAAQMD considers roadways with an average daily traffic (ADT) level of more than 10,000 to be "high-volume roadways" and recommends they be included in the analysis of health risks.

Regional Attainment Status

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified areas for ambient air quality standards. The four designations are defined below. Table 3.2-3 summarizes the attainment status of San Mateo County.

- Nonattainment—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified—assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Sensitive Receptors

Sensitive land uses are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, including children and the elderly. Per BAAQMD, typical sensitive land uses include residences, hospitals, and schools. Parks and playgrounds where sensitive receptors (e.g., children and seniors) are present are also considered sensitive land uses.[17] Places of employment (e.g., commercial/industrial uses) are not considered sensitive land uses because health-sensitive individuals (e.g., children and seniors) are generally not present.

[16] Bay Area Air Quality Management District. 2020a. *Permitted Stationary Sources Risks and Hazards*. Available: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65. Accessed: April 16, 2021.

[17] Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 14, 2021.

Table 3.2-3. Federal and State Attainment Status for San Mateo County Portion of the SFBAAB

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment
Particulate Matter (PM_{10})	Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment
Nitrogen Dioxide (NO_2)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO_2)	Unclassified/Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified
Visibility-Reducing Particles	(No Federal Standard)	Unclassified

Source:
California Air Resources Board. 2020a. *State Area Designations Regulations*. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. October. Available: https://ww3.arb.ca.gov/regact/2021/sad20/appc.pdf. Accessed: April 16, 2021.

Sensitive receptors near the Project site include the single-family residences along Alberni Street, which are approximately 360 feet south of the site; the single-family residences along Ralmar Avenue, which are approximately 470 feet southeast of the Project site; the single-family residences north of Newbridge Street and south of Alberni Street, the nearest of which is approximately 533 feet south of the Project site; and the single-family residences 600 feet east of the Project site on both the north and south sides of Kavanaugh Drive. Schools in the vicinity of the Project site include the Wund3rSCHOOL/Open Mind School, with a schoolyard directly adjacent to Parcel 2; Cesar Chavez Ravenswood Middle School, which is east of Ralmar Avenue and approximately 640 feet southeast of the Project site; and Midpen High School which is approximately 800 feet west of the Project site.

Regulatory Setting

The federal Clean Air Act (CAA) and its subsequent amendments form the basis for the nation's air pollution control effort. EPA is responsible for implementing most aspects of the CAA. The National Ambient Air Quality Standards (NAAQS) for criteria pollutants are a key element of the CAA, which delegates enforcement of the NAAQS to the states. In California, CARB is responsible for enforcing air pollution regulations and ensuring that the NAAQS and California Ambient Air Quality Standards (CAAQS) are met. CARB, in turn, delegates regulatory authority for stationary sources and other air quality management responsibilities to local air agencies. BAAQMD is the local air agency for the Project area.

The sections that follow provide more detailed information on the federal, state, and local air quality statutes, regulations, and plans that apply to the Proposed Project.

Federal

Clean Air Act and National Ambient Air Quality Standards

The federal CAA was enacted in 1963 and amended numerous times in subsequent years (e.g., 1965, 1967, 1970, 1977, and 1990). The federal CAA establishes federal air quality standards (i.e., the NAAQS), which are set to be protective of human health, and specifies future dates for achieving compliance. The

federal CAA also requires each state to submit and implement a State Implementation Plan (SIP) for local areas that fail to meet the standards. The plan must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the federal CAA identify specific emission reduction goals for areas that fail to meet the NAAQS. These amendments require both a demonstration of reasonable progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the federal CAA that would affect development of the Proposed Project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Table 3.2-4 shows the NAAQS that are currently in effect for each criteria pollutant. The CAAQS (discussed below) are provided for reference.

Table 3.2-4. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards[a]	
			Primary	Secondary
Ozone	1 hour	0.09 ppm	None[b]	None[b]
	8 hours	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM_{10})	24 hours	50 µg/m³	150 µg/m³	150 µg/m³
	Annual mean	20 µg/m³	None	None
Fine Particulate Matter ($PM_{2.5}$)	24 hours	None	35 µg/m³	35 µg/m³
	Annual mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Carbon Monoxide	8 hours	9.0 ppm	9 ppm	None
	1 hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide[c]	Annual mean	None	0.030 ppm	None
	24 hours	0.04 ppm	0.14 ppm	None
	3 hours	None	None	0.5 ppm
	1 hour	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 µg/m³	None	None
	Calendar quarter	None	1.5 µg/m³	1.5 µg/m³
	3-month average	None	0.15 µg/m³	0.15 µg/m³
Sulfates	24 hours	25 µg/m³	None	None
Visibility-Reducing Particles	8 hours	—[d]	None	None
Hydrogen Sulfide	1 hour	0.03 ppm	None	None
Vinyl Chloride	24 hours	0.01 ppm	None	None

Source: California Air Resources Board. 2016. *Ambient Air Quality Standards*. Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed: April 16, 2021.

Notes:

PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less

$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less

µg/m³ = micrograms per cubic meter

ppm = parts per million

a. National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

b. The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for SIPs.

Criteria Pollutant	Average Time	California Standards	National Standards[a] Primary	National Standards[a] Secondary

c. The annual and 24-hour NAAQS for sulfur dioxide apply for only 1 year after designation of the new 1-hour standard in areas that were previously nonattainment areas for the 24-hour and annual NAAQS.

d. The CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer (visibility of 10 miles or more due to particles when relative humidity is less than 70 percent).

Non-Road Diesel Rule

EPA has established a series of increasingly strict emissions standards for new off-road diesel equipment, on-road diesel trucks, and locomotives. New construction equipment used for the Proposed Project, including heavy-duty trucks and off-road construction equipment, would be required to comply with the emissions standards.

Corporate Average Fuel Economy Standards

The National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards require substantial improvements in fuel economy and reductions in emissions of criteria air pollutants and precursors, as well as GHGs, from all light-duty vehicles sold in the United States. On August 2, 2018, NHTSA and EPA proposed an amendment to the fuel efficiency standards for passenger cars and light trucks and established new standards for model years 2021 through 2026 that would maintain the then-current 2020 standards through 2026. This was known as the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. On September 19, 2019, NHTSA and EPA issued a final action on the One National Program Rule, which is considered Part One of the SAFE Vehicles Rule and a precursor to the proposed fuel efficiency standards. The One National Program Rule enables NHTSA and EPA to provide nationwide uniform fuel economy and air pollutant standards by 1) clarifying that federal law preempts state and local tailpipe standards, 2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and 3) withdrawing California's CAA preemption waiver to set state-specific standards.

NHTSA and EPA published their decision to withdraw California's waiver and finalize the regulatory text related to the preemption on September 27, 2019 (84 *Federal Register* 51310). California, 22 other states, the District of Columbia, and two cities filed suit against Part One of the SAFE Vehicles Rule on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv-02826, U.S. District Court for the District of Columbia). On October 28, 2019, the Union of Concerned Scientists, Environmental Defense Fund, and other groups filed a protective petition for review after the federal government sought to transfer the suit to the District of Columbia (*Union of Concerned Scientists v. National Highway Traffic Safety Administration*).

NHTSA and EPA published final rules on April 30, 2020, to amend and establish national air pollutant and fuel economy standards (Part Two of the SAFE Vehicles Rule) (85 *Federal Register* 24174). The revised rule changes the national fuel economy standards for light-duty vehicles from 46.7 miles per gallon (mpg) to 40.4 mpg in future years. California, 22 other states, and the District of Columbia filed a petition for review of the final rule on May 27, 2020.[18] On April 22, 2021, NHTSA announced that it proposes to repeal the SAFE Vehicles Rule, Part One, allowing California the right to set its

[18] *California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the District of Columbia.

own standards.[19] On December 12, 2021, NHTSA repealed the SAFE Vehicles Rule, Part One. On December 19, 2021, NHTSA finalized its vehicle efficiency standards rule to reach a projected industry-wide target of 40 mpg by 2026, an approximately 25 percent increase over the prior SAFE Vehicles Rule. Lastly, on March 9, 2022, EPA reinstated California's authority under the CAA to implement its own GHG emissions standards and sales mandate regarding zero-emission vehicles. This action concluded EPA's reconsideration of 2019's SAFE Vehicles Rule, Part One, by finding that actions under the previous administration, as part of SAFE-1, were decided in error; the actions are now rescinded.[20]

State

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California CAA, which established a statewide air pollution control program. The California CAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that require more time to achieve the standards. The CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are listed together in Table 3.2-4.

CARB and local air districts bear responsibility for achieving California's air quality standards. The standards are to be achieved through district-level air quality management plans, which are incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB has traditionally established state air quality standards, maintained oversight authority for air quality planning, developed programs for reducing emissions from motor vehicles, developed air emissions inventories, collected air quality and meteorological data, and approved SIPs.

The California CAA substantially increases the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes control of "indirect and area-wide sources" of air pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources and establish traffic control measures.

Statewide Truck and Bus Regulation

CARB adopted the Truck and Bus Regulation in 2008 to focus its efforts on reducing emissions of DPM, NO_X, and other criteria pollutants from diesel-fueled vehicles. This regulation applies to any diesel-fueled vehicle, as well as any dual-fuel or alternative-fuel diesel vehicle that travels on public highways; yard trucks with on-road engines; yard trucks with off-road engines used for agricultural operations; school buses; and vehicles with a gross vehicle weight rating (GVWR) of more than 14,000 pounds. The

[19] U.S. Department of Transportation, National Highway Transportation Safety Administration. 2021. *Corporate Average Fuel Economy Preemption.* Available: https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/cafe_preemption_nprm_04222021_1.pdf. Accessed: July 1, 2021.

[20] U.S. Environmental Protection Agency. 2022. *EPA Restores California's Authority to Enforce Greenhouse Gas Emission Standards for Cars and Light Trucks*. March 9. Available: https://www.epa.gov/newsreleases/epa-restores-californias-authority-enforce-greenhouse-gas-emission-standards-cars-and. Accessed: March 2022.

purpose of the regulation is to require trucks and buses registered in the state to have 2010 or newer engines by 2023. Compliance schedules have been established for lighter vehicles (GVWR of 14,000–26,000 pounds) and heavier vehicles (GVWR of more than 26,001 pounds).[21] As of January 1, 2020, only vehicles that met the requirements of the Trucks and Bus Regulation were allowed to register with the California Department of Motor Vehicles.

Airborne Toxic Control Measures

In 2004, CARB developed multiple measures under its ATCMs to address specific mobile- and stationary-source issues that have an impact on public health. The ATCMs focused on reducing the public's exposure to DPM and TAC emissions. The "Limit Diesel-Fueled Commercial Motor Vehicle Idling" ATCM required drivers of heavy-duty trucks with a GVWR of more than 10,000 pounds to not idle the primary engine for more than 5 minutes at any given time or operate an auxiliary power system for more than 5 minutes within 100 feet of a restricted area.[22] In addition, CARB set operating requirements for new emergency standby engines (i.e., diesel-fueled compression-ignition engines of less than 50 brake horsepower). Specifically, new engines shall not operate more than 50 hours per year for maintenance and testing purposes. This does not limit engine operation for emergency use or the emission testing required to show compliance with ATCM Section 93115.6(a)(3).

Toxic Air Contaminant Regulation

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("Hot Spots" Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce the public's exposure to air toxics. The "Hot Spots" Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification for people who were exposed to a significant health risk, and facility plans to reduce risks.

In August 1998, CARB identified DPM from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. As discussed previously, implementation of ATCMs helped reduce statewide DPM concentrations substantially. CARB plans to continue its efforts to reduce DPM emissions and estimates that, by 2035, DPM emissions will be less than half of what they were in 2010.[23]

Off-Road Diesel Vehicle Regulation

Off-road vehicles include, but are not limited to, diesel compression-ignition equipment; spark-ignition gasoline and liquified petroleum gas equipment; support equipment at ports, airports, and railways; and marine vehicles. In 2007, CARB aimed to reduce emissions of DPM, NO_X, and other criteria pollutants from off-road diesel-fueled equipment with adoption of the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation). The Off-Road Regulation applies to all diesel-fueled equipment or alternative-fuel diesel equipment with a compression-ignition engine greater than 25 horsepower (e.g., tractors, bulldozers, backhoes) as well as dual-fuel equipment. The regulation also applies to all

[21] California Air Resources Board. 2020b. *CARB Truck Rule Compliance Required for DMV Registration*. July. Available: https://ww3.arb.ca.gov/msprog/truckstop/pdfs/sb1_faqeng.pdf. Accessed: April 16, 2021.

[22] California Air Resources Board. 2005. *Final Regulation Order, Regulation for In-Use Off-Road Diesel Vehicles.* Available: https://ww3.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf. Accessed: April 16, 2021.

[23] California Air Resources Board. 2021d. *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed: April 16, 2021.

equipment that is rented or leased.[24] The purpose of the regulation is to reduce emissions by retiring, repowering, or replacing older, dirtier engines with newer, cleaner engines. The regulation established a compliance schedule for owners of small, medium, and large fleets. The schedule for large and medium fleets requires full implementation by 2023; small fleets have until 2028.[25]

Local

Bay Area Air Quality Management District

BAAQMD seeks to attain and maintain air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. Its clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations, as required by law.

2017 Bay Area Clean Air Plan

The 2017 Bay Area Clean Air Plan (Clean Air Plan) guides the region's air quality planning efforts to attain the CAAQS.[26] The current plan, adopted on April 19, 2017, by the BAAQMD Board of Directors, contains district-wide control measures to reduce O_3 precursor emissions (e.g., ROGs and NO_X) and particulate matter emissions. Specifically, the Clean Air Plan:

- Describes the BAAQMD plan for attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities;
- Defines a vision for transitioning the region to the post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050;
- Provides a regional climate protection strategy that will put the Bay Area on a pathway to achieving GHG reduction targets; and
- Includes a wide range of control measures to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, O_3, and TACs; reduce emissions of methane and other GHGs with high global warming potential that are potent climate pollutants in the near term; and decrease emissions of CO by reducing fossil fuel combustion.

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on- and off-road mobile sources, with an emphasis on diesel exhaust, which is a major contributor to airborne health risks in California. The CARE program is an ongoing program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases: an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TACs, and an assessment

[24] California Air Resources Board. 2008. *Final Regulation Order, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.* Available: https://ww3.arb.ca.gov/regact/idling/fro1.pdf. Accessed: April 16, 2021.

[25] Ibid.

[26] Bay Area Air Quality Management District. 2017b. *Final 2017 Clean Air Plan*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: April 14, 2021.

of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and a high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area.

For commercial and industrial sources, BAAQMD regulates TACs using a risk-based approach. This approach uses an HRA to determine which sources and pollutants to control as well as the degree of control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances in order to provide a quantitative estimate of health risks.[27] As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. BAAQMD has identified seven affected communities; Menlo Park has not been identified as an affected community.[28,29]

BAAQMD California Environmental Quality Act, Air Quality Guidelines

The BAAQMD *California Environmental Quality Act, Air Quality Guidelines* (CEQA Air Quality Guidelines) were prepared to assist in the evaluation of the air quality impacts of projects and plans proposed within the Bay Area. The CEQA Air Quality Guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics and odors.

In May 2017, BAAQMD published an updated version of the CEQA Air Quality Guidelines. The 2017 CEQA Air Quality Guidelines included thresholds for evaluating a project's impact on air quality. These protective thresholds are appropriate to the size, scale, and location of the Proposed Project because the Proposed Project is a land-use development project within BAAQMD jurisdiction.

Menlo Park General Plan

The Menlo Park General Plan guides development and use of land within the city. Several goals and policies from the Open Space and Conservation Element of the Menlo Park General Plan apply broadly to air quality as presented below.[30] The Open Space, Conservation, and Noise and Safety Elements set goals, policies, and implementing programs that work to ensure healthy air quality. The following goal and policies are applicable to the Proposed Project:

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[27] In general, a health risk assessment is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

[28] The affected communities are Richmond/San Pablo; eastern San Francisco, including Treasure Island; San José; western Alameda County; Concord; Vallejo; and Pittsburg/Antioch.

[29] Bay Area Air Quality Management District. 2015. *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area*. March. Available: https://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx. Accessed: April 14, 2021.

[30] Menlo Park, City of. 2013. *City of Menlo Park General Plan, Open Space/Conservation, Noise and Safety Elements*. May 21. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo Accessed: April 14, 2021.

Goal OSC-5: Ensure Healthy Air and Water Quality.

Policy OSC-5.1: Air and Water Quality Standards. Continue to apply standards and policies established by BAAQMD, the San Mateo Countywide Water Pollution Prevention Program, and City of Menlo Park Climate Action Plan through the CEQA process and other means as applicable.

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

ConnectMenlo, which updated the Land Use Element and Circulation Element of the Menlo Park General Plan, was adopted in November 2016. The following goals and policies in the Circulation Element, the scope of which includes the former M-2 Area, would be applicable to the Proposed Project:[31]

Goal CIRC-3: Sustainable Transportation. Increase Mobility Options to Reduce Traffic Congestion, Greenhouse Gas Emissions, and Commute Travel Time.

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

Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology 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-4.2: 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.

Environmental Impacts

This section describes the impact analysis related to air quality for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, as necessary.

Thresholds of Significance

Appendix G of the CEQA Guidelines provides four questions to help lead agencies assess whether a project would result in a significant impact on air quality.

- Would the project conflict with or obstruct implementation of the applicable air quality plan?
- Would the project result in a cumulatively considerable net increase in any criteria pollutant for which the project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard?

[31] Menlo Park, City of. 2016. *City of Menlo Park General Plan, Land Use and Circulation Elements.* November 29. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/General-Plan. Accessed: April 14, 2021.

- Would the project expose sensitive receptors to substantial pollutant concentrations?
- Would the project result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people?

As discussed in the Initial Study (Appendix 1-1), the Proposed Project would not conflict with or obstruct implementation of the Clean Air Plan, would not be a source of odors, and would not result in other emissions, such as those leading to odors, that would adversely affect a substantial number of people. Therefore, these impacts were scoped out from further review in the Initial Study. The sections that follow discuss thresholds as well as analysis considerations for regional and local Project-generated criteria and toxic air pollutants with respect to their human health implications (Impact AQ-1 and Impact AQ-2).

Local Air District Thresholds

Regional Thresholds for Air Basin Attainment of State and Federal Ambient Air Quality Standards

BAAQMD has adopted thresholds for regional air pollutants to assist lead agencies in determining the significance of environmental effects with respect to local attainment of state and federal ambient air quality standards. As discussed above, ROG and NO_X are regional pollutants, whereas particulate matter is both a regional and local pollutant. The thresholds are based on emissions levels identified under the New Source Review (NSR) program, which is a permitting program established by Congress as part of the CAA amendments of 1990 to ensure that air quality is not significantly degraded by new sources of emissions. The NSR program requires stationary sources to receive permits before construction and/or the use of equipment. By permitting large stationary sources, the NSR program ensures that new emissions will not slow regional progress toward attaining the NAAQS. BAAQMD concluded that the stationary pollutants described under the NSR program are equal in importance to those generated with land use projects.

BAAQMD's regional thresholds identified in Table 3.2-5 were set as the total emission thresholds associated within the NSR program to help attain the NAAQS.[32]

Table 3.2-5. BAAQMD Project-Level Regional Criteria Pollutant Emission Thresholds

Analysis	Thresholds
Regional Criteria Pollutants (Construction)	• Reactive Organic Gases: 54 pounds/day • Nitrogen Oxides: 54 pounds/day • Particulate Matter (PM_{10}): 82 pounds/day (exhaust only); compliance with best management practices (fugitive dust) • Fine Particulate Matter ($PM_{2.5}$): 54 pounds/day (exhaust only); compliance with best management practices (fugitive dust)
Regional Criteria Pollutants (Operations)	• Reactive Organic Gases: 54 pounds/day • Nitrogen Oxides: 54 pounds/day • Particulate Matter (PM_{10}): 82 pounds/day (exhaust + fugitive dust) • Fine Particulate Matter ($PM_{2.5}$): 54 pounds/day (exhaust +fugitive dust)

Source: Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 14, 2021.

[32] Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 14, 2021.

Significance thresholds established by an air district are used to manage total regional and local emissions within an air basin, based on the air basin's attainment status for criteria air pollutants. The emission thresholds shown in Table 3.2-5 were established for individual development projects that could contribute to regional and local emissions and adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria air pollutants.

One individual project that generates emissions that exceed a threshold does not necessarily result in adverse health effects for residents in the vicinity. This condition is especially true when the criteria air pollutants that exceed thresholds are those with regional effects, such as O_3 precursors (e.g., NO_X and ROGs). Furthermore, by its very nature, air pollution is largely a cumulative impact. No single project is large enough by itself to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality is considered significant. In developing thresholds of significance for air pollutants, the air districts have considered the emission levels at which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts on the region's existing air quality conditions.

Health-Based Thresholds for Project-Generated Pollutants of Human Health Concern

The California Supreme Court's 2018 decision in *Sierra Club v. County of Fresno* (6 Cal.5th 502), hereafter referred to as the Friant Ranch Decision, included review of the long-term regional air quality analysis contained in the environmental impact report (EIR) for the proposed Community Plan Update and Friant Ranch Specific Plan (Friant Ranch Project). The Friant Ranch Project proposed a 942-acre master-plan development in unincorporated Fresno County, within the San Joaquin Valley Air Basin, which is currently designated as a nonattainment area with respect to the NAAQS and CAAQS for O_3 and $PM_{2.5}$. The court found that the EIR's air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The court's decision notes that environmental documents must attempt to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants generated by the Proposed Project are associated with some form of health risk (e.g., asthma, lower respiratory problems). Criteria pollutants can be classified as either regional pollutants or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. O_3 is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and lead are localized pollutants. Particulate matter can be both a local and a regional pollutant, depending on its composition. The primary criteria pollutants of concern generated by the Proposed Project would be O_3 precursors (i.e., ROG and NO_X), CO, and particulate matter, including DPM.

The sections that follow discuss thresholds and analysis considerations for regional and local Project-generated criteria pollutants with respect to their human health implications.

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional Particulate Matter)

Adverse health effects from regional criteria pollutant emissions, such as O_3 precursors and particulate matter, generated by the Proposed Project are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and

characteristics of exposed individuals [e.g., age, gender]). Therefore, O_3 precursors (ROG and NO_X) contribute to the formation of ground-borne O_3 on a regional scale. Emissions of ROG and NO_X generated in an area may not correlate to a specific O_3 concentration in that same area. Similarly, some types of particulate pollutants may be transported over long distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased O_3 or regional particulate matter concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project. Moreover, exposure to regional air pollution does not guarantee that an individual will experience an adverse health effect. As discussed above, there are large individual differences in the intensity of symptomatic responses to air pollutants. These differences are influenced, in part, by the underlying health condition of an individual, which cannot be known.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. Although models are capable of quantifying O_3 and any secondary particulate matter formation and associated health effects, these tools were developed to support large regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating Project-generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be determined with any degree of accuracy.

The technical limitations of existing models (e.g., for correlating Project-level regional emissions to specific health consequences) are recognized by air quality management districts throughout the state, including the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast Air Quality Management District (SCAQMD). Both of these districts provided amicus curiae briefs for the *Sierra Club v. County of Fresno* related to the Friant Ranch Project legal proceeding. In its brief, the SJVAPCD acknowledged that HRAs for localized air toxics, such as DPM, are common; however, "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task." The SJVAPCD further noted that emissions solely from the Friant Ranch Project, which equate to less than one-tenth of 1 percent of total NO_X and volatile organic compounds in the valley, are not likely to yield valid information and that any such information would not be "accurate when applied at the local level." SCAQMD presented similar information in its brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels."[33,34] As of the date of this EIR, BAAQMD has not approved a quantitative method for accurately correlating criteria pollutant emissions generated by an individual project to specific health outcomes or changes in nonattainment days.

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations as well as attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates that there are known safe concentrations of criteria pollutants. Although recognizing that air quality is a cumulative problem, air districts typically consider projects that generate criteria pollutant and O_3 precursor emissions that are below the thresholds to be minor in nature. Such projects would not adversely affect air quality or exceed the NAAQS or CAAQS. Emissions generated by the

[33] South Coast Air Quality Management District. 2015. *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and [Proposed] Brief of Amicus Curiae.* Available: https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf. Accessed: May 15, 2021.

[34] For example, SCAQMD's analysis of its 2012 air quality attainment plan showed that the modeled NO_x and ROG reductions of 432 and 187 tons per day, respectively, reduced ozone levels by only 9 parts per billion.

Proposed Project could increase photochemical reactions and the formation of tropospheric O_3 and secondary particulate matter, which, at certain concentrations, could lead to increased incidences of specific health consequences. Although these health effects are associated with O_3 and particulate pollution, the effects are a result of cumulative and regional emissions. Therefore, a quantitative correlation of Project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis. It is foreseeable that unmitigated construction-related and operational emissions of O_3 precursors and particulate matter, in excess of BAAQMD thresholds, could contribute to cumulative and regional health impacts. In such cases, all feasible mitigation would be applied, and emissions would be reduced to the extent possible.

Localized Project-Generated Criteria Pollutant Emissions (CO and Particulate Matter) and Air Toxics (DPM and Asbestos)

Localized pollutants generated by a project can affect populations near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. The Proposed Project would generate CO, particulate matter, DPM, and asbestos. The applicable thresholds for each pollutant are described below.

Localized Carbon Monoxide Concentrations

Heavy traffic congestion can contribute to high levels of CO, and individuals exposed to such hot spots may have a greater likelihood of developing adverse health effects. BAAQMD has adopted screening criteria that provide a conservative indication of whether Project-generated traffic would cause a potential CO hot spot. If the screening criteria are not met, a quantitative analysis through site-specific dispersion modeling of Project-related CO concentrations would not be necessary, and the Proposed Project would not cause localized violations of the CAAQS for CO. Projects that do not generate CO concentrations in excess of the health-based CAAQS would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded. BAAQMD's CO screening criteria are summarized below. If a project meets the criteria, it is presumed that it would not generate a CO hot spot.

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

Localized Particulate Matter Concentrations

BAAQMD adopted an incremental $PM_{2.5}$ concentration-based significance threshold in which a "substantial" contribution at the project level for an individual source is defined as total $PM_{2.5}$ concentrations (i.e., exhaust and fugitive) exceeding 0.3 $\mu g/m^3$. This is the same threshold used to evaluate the placement of new receptors that would be exposed to individual $PM_{2.5}$ emissions sources. In addition, BAAQMD considers projects to have a cumulatively considerable $PM_{2.5}$ impact if sensitive receptors are exposed to $PM_{2.5}$ concentrations from local sources within 1,000 feet, including existing sources, project-related sources, and reasonably foreseeable future sources, that exceed 0.8 $\mu g/m^3$. BAAQMD's $PM_{2.5}$ thresholds apply to both new receptors and new sources.

BAAQMD has not established thresholds of significance for concentrations of PM_{10}. However, BAAQMD considers fugitive PM_{10} from earthmoving activities to be less than significant with application of BAAQMD's best management practices (BMPs).

Localized Toxic Air Contaminant Concentrations

DPM has been identified as a TAC. DPM is particularly concerning because long-term exposure can lead to cancer, birth defects, and damage to the brain and nervous system. BAAQMD has adopted incremental cancer and hazard thresholds to evaluate receptor exposure to single sources of DPM emissions. The "substantial" DPM threshold, as defined by BAAQMD, is exposure of a sensitive receptor to an individual emissions source that results in an excess cancer risk level of more than 10 in 1 million or a non-cancer (i.e., chronic or acute) hazard index (HI) greater than 1.0.

BAAQMD considers projects to have a cumulatively considerable DPM impact if they contribute DPM emissions that, when combined with cumulative sources within 1,000 feet of sensitive receptors, result in excess cancer risk levels of more than 100 in 1 million or an HI greater than 10.0. BAAQMD considers a project to have a significant cumulative impact if it introduces new receptors at a location where the combined exposure to all cumulative sources within 1,000 feet is in excess of the cumulative thresholds.

Asbestos

BAAQMD considers a project to have a significant impact if it does not comply with the applicable regulatory requirements outlined in Regulation 11, Rule 2, Asbestos Demolition, Renovation, and Manufacturing.

Odors

BAAQMD's thresholds for odors are qualitative and based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause, or have a natural tendency to cause, injury or damage to businesses or property. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturers, and chemical plants.[35]

Methods for Analysis

Air quality impacts associated with construction and operation of the Proposed Project were assessed and quantified using standard and accepted software tools, calculations, and emission factors. A summary of the methodology is provided below.

[35] Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: May 14, 2021.

Construction

Construction of the Proposed Project is estimated to have a duration of approximately 16 months. Construction would generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ that could result in short-term air quality effects during the construction period. Emissions would be associated with exhaust from off-road equipment; exhaust from employees' vehicles and haul trucks; fugitive dust associated with demolition, site grading, and earthmoving; suspended road dust from vehicle travel; and off-gassing emissions from architectural coatings and paving. The BAAQMD regional construction thresholds require evaluation of only exhaust emissions; however, the air quality analysis also includes fugitive dust emissions. Emissions were estimated using a combination of emission factors and methodologies from the California Emissions Estimator Model (CalEEMod), version 2020.4.0; CARB's EMission FACtor 2021 (EMFAC2021) model; and EPA's AP-42: Compilation of Air Pollutant Emission Factors. The emissions estimates relied on a combination of CalEEMod default data as well as Project-specific information provided by the Project Sponsor. A detailed description of model input and output parameters and assumptions is provided in Appendix 3.2.

Operation

Operation of the Proposed Project would generate emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$. Criteria pollutant emissions from motor vehicles associated with development of the Proposed Project were evaluated using CalEEMod; emission factors from EMFAC2021; and trip generation rates and trip lengths provided by the transportation consultant for the Proposed Project.[36] Area-, energy-, and stationary-source emissions associated with the Proposed Project were also estimated using CalEEMod; the output files from this analysis can be found in Appendix 3.2. Area-source emissions would result from the reapplication of architectural coatings as part of ongoing building maintenance, the use of consumer products, and the use of landscaping equipment. Energy-source emissions would result from the combustion of natural gas for space heating. Stationary-source emissions would result from the maintenance and testing of a diesel-powered emergency generator with a rating of 1,490 horsepower that would operate for about 15 minutes each week for routine testing purposes. Operational emissions were modeled for 2023, the first year the Proposed Project would be fully operational. In addition, 2023 represents the most emissions-intensive year of operation, thereby providing a conservative analysis for the purposes of this EIR.[37] The model input and output files, which show the parameters and assumptions used in the modeling, are provided in Appendix 3.2.

Health Risk Analysis

An HRA was prepared to quantify the levels of exposure from emissions of TACs and $PM_{2.5}$ at nearby sensitive receptors, for both Project construction and operation. The HRA methods are described below, and all HRA modeling assumptions and results can be found in Appendix 3.2.

DPM and $PM_{2.5}$

The Proposed Project would generate DPM and $PM_{2.5}$ emissions during construction and operations. Because the Proposed Project would introduce DPM and $PM_{2.5}$ emissions in an area near existing sensitive receptors, an HRA was conducted. The HRA uses EPA's most recent air dispersion model,

[36] Jin, Ling. Associate transportation planner, Hexagon Transportation Consultants, Inc. February 18, 2022—email to Leo Mena, ICF, San Francisco, CA, regarding trip generation, distribution, and assignment assumptions for the 1125 O'Brien Drive Project.

[37] In future years, the Proposed Project's emissions would decrease because of turnover in the vehicle fleet and more stringent regulations that tend to reduce criteria air pollutants over time.

AERMOD (version 21112); cancer and chronic risk assessment values for DPM provided by the Office of Environmental Health Hazard Assessment (OEHHA); and other assumptions for model inputs recommended in BAAQMD's Health Risk Assessment Modeling Protocol.[38] The HRA applies the most recent guidance and calculation methods from OEHHA's *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments*.[39] The HRA consists of three parts: an emissions inventory, air dispersion modeling, and risk calculations. A description of each part follows.

Emissions Inventory

The emissions inventory includes DPM and $PM_{2.5}$ emissions from construction and operations. During construction, off-road equipment and on-road travel by heavy-duty trucks would generate DPM emissions. The construction $PM_{2.5}$ inventory consists of $PM_{2.5}$ exhaust from equipment and vehicles as well as fugitive dust emissions from onsite soil movement and on-road travel by heavy-duty trucks and workers' vehicles.

The operational DPM inventory includes emissions from maintenance and testing of the emergency generator and on-road travel by diesel-powered delivery trucks. The operational $PM_{2.5}$ inventory consists of $PM_{2.5}$ exhaust emissions from the emergency generator as well as $PM_{2.5}$ exhaust and fugitive dust emissions from on-road travel by employee vehicles and delivery trucks.

Air Dispersion Modeling

The HRA used EPA's AERMOD model, version 21112, to model annual average DPM and $PM_{2.5}$ concentrations at nearby receptors. Modeling inputs, including emission rates in grams of pollutant emitted per second, and source characteristics (e.g., release height, stack diameter, plume width) were based on guidance provided by OEHHA, BAAQMD, and SCAQMD.[40] Meteorological data were obtained from CARB for the Santa Clara County meteorological station at Palo Alto Airport. This is the nearest monitoring station (1.8 miles southeast) of the Project site.

Construction

Onsite construction emissions from off-road equipment were characterized as a polygon area source that outlined the footprint of the Project site. A release height of 5.0 meters represented exhaust emissions, and a release height of 0 meters above the ground to represented onsite fugitive dust emissions.[41] The release height represents the height above the ground at which pollutants are emitted. On-road travel emissions from haul and vendor trucks, as well as workers' vehicles for $PM_{2.5}$ analysis, were characterized as line volume sources with release heights of 0.9 meter for fugitive dust emissions and 3.4 meters for exhaust emissions. Line volume sources represent a series of individual volumes sources.

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[38] Bay Area Air Quality Management District. 2020b. *Health Risk Assessment Modeling Protocol*. December. Available: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/ baaqmd_hra_modeling_protocol_august_2020-pdf.pdf?la=en. Accessed: March 2022.

[39] Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments*. February. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: March 2022.

[40] Certain information necessary for modeling, such as source parameters (e.g., source heights, etc.), is not available from BAAQMD but is provided by SCAQMD. These parameters do not depend on a project's geographic location and are appropriate to use in areas outside of the SCAQMD's jurisdiction.

[41] South Coast Air Quality Management District. 2008. *Final Localized Significance Threshold Methodology*. Revised July. Available: https://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2. Accessed: March 2022.

To account for the plume rise associated with mechanically generated air turbulence from construction emissions for the AERMOD run, the initial vertical dimension of the area source was modeled at 1.4 meters for exhaust and 1.0 meters for fugitive dust; for the line volume, the initial vertical dimensions were 3.2 meters for exhaust and 0.8 meter for fugitive dust. Plume rise is the height that pollutants rise above a release height. For exhaust, plume rise occurs because of the temperature of the exhaust gas. Exhaust gas temperatures can be high, which causes the plume to rise. For dust, plume rise accounts for the mechanical entrainment of dust in the wheels of equipment and trucks. Emissions from off-road equipment were assumed to be generated throughout the construction footprint. Emissions from offsite trucks were modeled along the road segments adjacent to the construction footprint.

The modeling of emissions from construction activities was based on typical construction hours and the number of days (8 hours per day, 5 days per week). The urban dispersion option was used in the analysis because of the Project site's characteristics and because surrounding areas are developed with buildings and paved surfaces that can influence how pollutants are dispersed in the area. Offsite sensitive receptors were modeled in AERMOD at individual residential properties or school sites in all directions within 1,000 feet of the Project site using a 10- by- 10-meter receptor grid. Receptors were given a height of 1.5 meters to represent the average human breathing zone.[42]

Operations

Operations would generate DPM and $PM_{2.5}$ from vehicle travel as well as testing and maintenance of an emergency generator. On-road travel emissions from delivery trucks, as well as workers' vehicles for $PM_{2.5}$ analysis, were characterized as line volume sources with release heights of 0.9 meter for fugitive dust emissions and 3.4 meters for exhaust emissions. To account for plume rise associated with mechanically generated air turbulence from operational emissions sources for the AERMOD run, the initial vertical dimension for the line volume sources was 3.2 meters for exhaust and 0.8 meter for fugitive dust. The emergency generator would generate both DPM and $PM_{2.5}$ emissions. In AERMOD, the emergency generator was represented by a point source with a release height of 3.05 meters and an exhaust flow rate of 7,451 cubic feet per minute, consistent with the manufacturer's specification sheet.

Similar to construction, the urban dispersion option used considered the Project site's characteristics. Offsite sensitive receptors were modeled in AERMOD at individual residential properties or school sites in all directions within 1,000 feet of the Project site using a 10- by 10-meter receptor grid; the same grid for the construction analysis was also used for operations. Receptors were given a height of 1.5 meters to represent the average human breathing zone.[43] A complete list of dispersion modeling inputs is provided in Appendix 3.2.

Health Risk Exposure Estimation

The risk calculations incorporate OEHHA's age sensitivity factors, which account for increased sensitivity to carcinogens during early-in-life exposure. The approach for estimating cancer risk from long-term inhalation, including exposure to carcinogens, requires calculating a range of potential doses and multiplying by cancer potency factors in units corresponding to the inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate daily

[42] Bay Area Air Quality Management District. 2020b. *Health Risk Assessment Modeling Protocol*. December. Available: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/ baaqmd_hra_modeling_protocol_august_2020-pdf.pdf?la=en. Accessed: April 15, 2021.

[43] Ibid.

breathing rates, age sensitivity factors, and exposure durations. The cancer risks calculated for individual age groups are summed to estimate the cancer risk for each receptor. Chronic cancer and hazard risks were calculated using values from OEHHA's 2015 HRA guidance.[44]

Three cancer risk scenarios were evaluated for the Proposed Project. The first scenario evaluates a receptor beginning in the third trimester of pregnancy and being exposed to the full construction duration of 1.29 years (i.e., approximately 16 months). The second scenario evaluates a receptor beginning in the third trimester of pregnancy and being exposed to 30 years of operations. Lastly, the third scenario evaluates a receptor beginning in the third trimester of pregnancy and being exposed to the full construction duration of 1.29 years and then 28.71 years of operations, for a total exposure duration of 30 years (refer to Appendix 3.2 for the risk calculations and additional assumptions).

Summary of Analysis in the ConnectMenlo EIR

An overview of the air quality impacts and required mitigation measures, as identified in the ConnectMenlo Final EIR, is provided below.

Clean Air Plan

The ConnectMenlo Final EIR determined that ConnectMenlo would be consistent with the goals and applicable control measures of the 2010 Bay Area Clean Air Plan. In addition, the ConnectMenlo Final EIR determined that regional growth projections for vehicle miles traveled (VMT), population, and employment would not exceed forecasts in the Association of Bay Area Governments/Metropolitan Transportation Commission 2013 Plan Bay Area, which was the current version of Plan Bay Area at the time when the EIR was prepared. For these reasons, the ConnectMenlo Final EIR determined that implementation of ConnectMenlo would be consistent with air quality planning efforts in the SFBAAB, and this impact would be less than significant.

Criteria Air Pollutants

The ConnectMenlo Final EIR found that construction emissions associated with individual development projects could generate emissions of criteria air pollutants and TACs. This would require subsequent environmental review of future development projects to assess potential impacts relative to BAAQMD-recommended project-level thresholds. Construction emissions from buildout of future projects within Menlo Park, including the Proposed Project, would include 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by demolition, grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles; and 4) off-gas emissions of ROG associated with the application of asphalt, paint, and architectural coatings. The ConnectMenlo Final EIR found that construction-related impacts would be significant and therefore identified ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2 to reduce impacts to the extent feasible. Mitigation Measure AQ-2b1 requires the implementation of BAAQMD Basic Construction Mitigation Measures for all construction projects in the city, and Mitigation Measure AQ-2b2 requires an evaluation of air quality impacts for projects that exceed BAAQMD criteria and the implementation of BAAQMD-approved mitigation measures if subsequent environmental review determines that future individual development projects in Menlo Park could generate construction exhaust emissions in excess of the BAAQMD-recommended significance thresholds. Even with implementation of these measures,

[44] Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments.* February. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: April 15, 2021.

the ConnectMenlo Final EIR determined that construction-period impacts associated with buildout of ConnectMenlo would be significant and unavoidable. The Air Quality Study prepared for this Project complies with the provisions of ConnectMenlo Mitigation Measure AQ-2b2. The impact analysis further below identifies which mitigation measures, including ConnectMenlo mitigation measures and project-specific mitigation measures, would apply to the Proposed Project.

The ConnectMenlo Final EIR found that emissions of criteria air pollutants and precursors associated with the operation of new development under ConnectMenlo would generate a substantial net increase in emissions that would exceed the BAAQMD regional significance thresholds. Because emissions generated by cumulative development within the city could exceed the regional significance thresholds, any development project could contribute to an increase in adverse health effects in the SFBAAB until the attainment standards are met. Criteria air pollutant emissions would be generated from onsite area sources (e.g., landscaping fuel, consumer products), vehicle trips generated by individual projects, and onsite combustion of natural gas for space and water heating. The ConnectMenlo Final EIR identified ConnectMenlo Mitigation Measure AQ-2a, which requires implementation of BAAQMD-approved mitigation measures if subsequent environmental review determines that future development projects in Menlo Park could generate operational emissions above the BAAQMD significance thresholds.

Finally, the ConnectMenlo Final EIR determined that the increase in traffic associated with buildout under ConnectMenlo would not result in, or contribute to, localized concentrations of CO that would exceed applicable federal and state ambient air quality standards.

Exposure of Sensitive Receptors to Pollutant Concentrations

The ConnectMenlo Final EIR required implementation of ConnectMenlo Mitigation Measure AQ-3a to reduce impacts associated with the generation of DPM emissions from non-residential land uses in Menlo Park. The ConnectMenlo Final EIR also determined that the placement of new sensitive land uses, such as residential units, near major sources of air pollution could expose sensitive receptors to elevated concentrations of such pollutants. As such, the ConnectMenlo Final EIR identified Mitigation Measure AQ-3b to ensure that air pollution levels at sensitive receptors meet the incremental risk thresholds established by BAAQMD. With implementation of ConnectMenlo Mitigation Measure AQ-3b, the ConnectMenlo Final EIR concluded that impacts would be less than significant.

Impacts and Mitigation Measures

Impact AQ-1: Cumulatively Considerable Net Increase in Criteria Pollutants. The Proposed Project would not result in a cumulative net increase in any criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard. (LTS/M)

According to the BAAQMD CEQA Air Quality Guidelines, to meet air quality standards for criteria air pollutant and air pollutant precursors, the Proposed Project must not:

- Generate daily construction emissions of ROG, NO_X, or $PM_{2.5}$ (exhaust) greater than 54 pounds per day or daily construction emissions of PM_{10} (exhaust) greater than 82 pounds per day.
- Generate any amount of daily construction emissions of fugitive PM_{10} and $PM_{2.5}$ without the implementation of BAAQMD-recommended BMPs.
- Generate operational emissions of ROG, NO_X, or $PM_{2.5}$ greater than 10 tons per year or 54 pounds per day or PM_{10} emissions greater than 15 tons per year or 82 pounds per day.

Construction

Construction activities would generate emissions of criteria pollutants from off-road equipment exhaust, construction workers' vehicles and heavy-duty trucks traveling to and from the Project site, the application of architectural coatings, and paving activities. Fugitive PM_{10} and $PM_{2.5}$ dust would also be generated during soil movement and disturbance, such as grading and excavation. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously. To represent the most conservative analysis, maximum daily emissions estimates have been calculated to assess construction impacts. Maximum daily emissions typically occur during phases with the greatest intensity of construction activities as well as times when multiple construction phases take place on the same day. The maximum daily criteria air pollutant emissions that would be generated during Proposed Project construction are shown in Table 3.2-6 (refer to Appendix 3.2 for air quality modeling input and output parameters, detailed assumptions, and daily construction-related emissions estimates).

Table 3.2-6. Estimated Maximum Daily Construction Emissions of Criteria Air Pollutants and Precursors

	Maximum Daily Emissions (lb/day)[a,b]					
Construction Year[c]	**ROG**	**NO_X**	**PM_{10} Fugitive**	**PM_{10} Exhaust**	**$PM_{2.5}$ Fugitive**	**$PM_{2.5}$ Exhaust**
Unmitigated Scenario[a]						
2022	15.5	46.8	4.1	1.4	0.8	1.3
2023	14.4	28.6	1.6	0.9	0.4	0.9
Maximum Daily Emissions	15.5	46.8	3.4	1.4	0.6	1.3
BAAQMD Significance Thresholds	54	54	**n/a**	82	**n/a**	54
Exceeds Threshold?	**No**	**No**	**—**	**No**	**—**	**No**
Mitigated Scenario[b]						
2022	12.9	17.8	2.6	0.3	0.6	0.3
2023	12.3	9.9	1.6	0.1	0.4	0.1
Maximum Daily Emissions	12.9	17.8	2.6	0.3	0.6	0.3
BAAQMD Significance Thresholds	54	54	**n/a**	82	**n/a**	54
Exceeds Threshold?	**No**	**No**	**N/A**	**No**	**N/A**	**No**

Source: Modeling files provided in Appendix 3.2.

Notes:

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less; n/a = BAAQMD has not developed a mass emission threshold for this pollutant

[a.] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions.

[b.] The mitigated scenario includes BAAQMD's BMPs to reduce dust and off-road equipment fitted with Tier 4 Final engines.

[c] Construction emissions were analyzed for 2022 and 2023 based on the anticpated construction schedule at the time of the environmental analysis; however, the actual construction schedule would occur partially or wholly subsequent to these years. The emissions presented here are likely to be higher than those that would actually occur because the construction equipment, truck, and worker vehicle fleets become lower-emitting in future years from technological improvements, more stringent regulations, and older vehicle turnover.

BAAQMD's CEQA Air Quality Guidelines consider fugitive dust impacts to be less than significant with application of BMPs. If BMPs are not implemented, then dust impacts would be significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts.

Fugitive dust emissions would be controlled with implementation of ConnectMenlo Mitigation Measures AQ-2b1. The BMPs are necessary to reduce this impact to a less-than-significant level. Furthermore, to reduce significant cancer risks for sensitive receptors, Mitigation Measure AQ-2.1 would be required; this specific impact is discussed in detail under Impact AQ-2. Because Mitigation Measure AQ-2.1 is required to reduce that impact, Table 3.2-6 also presents emissions that would result from implementation of Mitigation Measure AQ-2.1. Although Mitigation Measure AQ-2.1 is not required to mitigate Impact AQ-1, the mitigated scenario with that measure implemented is shown here to present the actual emissions that would occur. The Air Quality Study for this Project implemented the provisions of ConnectMenlo Mitigation Measure AQ-2b2.

MITIGATION MEASURES. BAAQMD's CEQA Air Quality Guidelines consider fugitive dust impacts to be less than significant with application of BMPs. If BMPs are not implemented, then dust impacts would be significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts. In addition, fugitive dust emissions would be controlled with implementation of ConnectMenlo Mitigation Measure AQ-2b1. As shown in Table 3.2-6, construction of the Proposed Project would not result in emissions that would exceed BAAQMD's recommended threshold for any pollutant. With implementation of BAAQMD-recommended BMPs and ConnectMenlo Mitigation Measure AQ-2b1, fugitive dust emissions would be reduced, and Project-related construction activities would not result in a cumulatively considerable net increase in any criteria air pollutant for which the SFBAAB is designated as a nonattainment area with respect to federal or state ambient air quality standards. This impact would be ***less than significant with mitigation***.

AQ-2b1 *(ConnectMenlo EIR)* As part of the City's development approval process, the City shall require applicants for future development projects to comply with current BAAQMD basic control measures for reducing construction emissions of PM_{10} (Table 8-2, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of BAAQMD's CEQA Air Quality Guidelines).

Operation

The criteria pollutant emissions that would be generated during Project operations were quantified using CalEEMod and EMFAC2021. Long-term emissions would be caused primarily by vehicle trips associated with employee commute-related trips and delivery truck trips, with additional emissions from area sources (e.g., cleaning supplies, architectural coatings, landscape maintenance equipment) and the onsite combustion of natural gas. Stationary-source emissions would be associated with intermittent use of a diesel-powered emergency generator with a rating of 1,490 horsepower that would be tested approximately 15 minutes per week.

The Proposed Project's estimated daily operational emissions for buildout year 2023 are presented in Table 3.2-7 and compared to BAAQMD's recommended mass emission thresholds. Refer to Appendix 3.2 for air quality modeling input and output parameters, detailed assumptions, and daily operational emissions estimates.

Table 3.2-7. Estimated Maximum Daily Operational Emissions from Existing Uses and the Project

Emissions Source	Maximum Daily Emissions (lb/day)			
	ROG	NO_X	PM_{10}[a]	$PM_{2.5}$[a]
Existing Land Uses				
Area Sources	1.5	< 1	< 1	< 1
Energy Sources	<1	0.2	< 1	< 1
Mobile Sources	1.2	1.2	3.2	<1
Total Existing	**2.7**	**1.4**	**3.2**	**<1**
Proposed Project				
Area Sources	3.2	< 1	< 1	< 1
Energy Sources	< 1	5.9	< 1	< 1
Mobile Sources	4.2	3.1	9.1	2.3
Stationary Sources	2.4	10.9	< 1	< 1
Total Project	**10.5**	**19.9**	**10.0**	**3.1**
Net Project Emissions[b]	**7.8**	**18.5**	**6.8**	**2.2**
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Modeling files provided in Appendix 3.2.
Notes:
lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a.] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

As shown in Table 3.2-7, operation of the Proposed Project would not generate levels of ROG, NO_X, or particulate matter that would exceed BAAQMD-recommended mass emission thresholds. Therefore, operation of the Proposed Project would not result in a cumulatively considerable net increase in any criteria air pollutant for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. Mitigation measures, including implementation of ConnectMenlo Mitigation Measure AQ-2a, would not be required. This impact would be ***less than significant.***

Impact AQ-2: Expose Sensitive Receptors to Substantial Pollutant Concentrations. The Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. (LTS/M)

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks for sensitive individuals, including children and the elderly. Per BAAQMD, typical sensitive receptors are residences, hospitals, and schools. Parks and playgrounds where sensitive receptors (e.g., children and seniors) are present would also be considered sensitive receptors.[45] The nearest sensitive land use is the Wund3rSCHOOL/Open Mind School, with the schoolyard approximately 15 feet east of Parcel 2. The next-nearest sensitive land uses are the residences south and east of the Project site.[46]

[45] Bay Area Air Quality Management District. 2017a. *California Environmental Quality Act, Air Quality Guidelines.* May. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: April 2021.

[46] The air dispersion modeling considered sensitive receptors (i.e., schools and residents) at indoor and outdoor areas.

The primary pollutants of concern with regard to health risks for sensitive receptors are criteria pollutants, specifically CO at potential intersection hot spots, asbestos, DPM, and localized $PM_{2.5}$. Each of these topics is analyzed in the paragraphs that follow.

Localized Carbon Monoxide Hot Spots

Continuous engine exhaust may elevate localized CO concentrations, resulting in hot spots. Receptors exposed to these CO hot spots may have a greater likelihood of developing adverse health effects. CO hot spots are typically observed at heavily congested intersections where a substantial number of gasoline-powered vehicles idle for prolonged durations.

Peak-hour traffic volumes at eight intersections in the Project vicinity were analyzed to determine whether CO emitted by Project-generated traffic would exceed BAAQMD screening criteria. Maximum traffic volumes at the intersections under all scenarios would be less than BAAQMD's recommended screening criterion of 44,000 vehicles per hour.[47] Also, intersection traffic volumes under all scenarios would not exceed the screening criterion of 24,000 vehicles per hour that BAAQMD recommends for areas where vertical and/or horizontal mixing is substantially limited.[48] In addition, the Proposed Project would not conflict with the City/County Association of Governments Congestion Management Plan.[49] Because the Proposed Project would not exceed the BAAQMD screening criteria, it would not result in, or contribute to, a localized concentration of CO that would exceed the applicable NAAQS or CAAQS. This impact would be ***less than significant***.

Toxic Air Contaminants

Asbestos

Asbestos is a naturally occurring mineral that was previously used in building construction because of its heat resistance and strong insulating properties. Exposure to asbestos, however, has been shown to cause many disabling and fatal diseases, including lung cancer, mesothelioma, and pleural plaques. Demolition of the existing hardscape (asphalt and concrete) and structures on the Project site may expose workers and nearby receptors to asbestos if the material was used during construction of the original hardscape and buildings. However, the Proposed Project would comply with BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation, and Manufacturing. The purpose of this rule is to control emissions of asbestos to the atmosphere during demolition and building renovation. The rule contains several provisions requiring strict practices to control asbestos during demolition activities, such as adequately wetting asbestos-containing material (ACM), using an exhaust and ventilation system to prevent any visible emissions, and installing physical barriers during the removal of ACM. Visible emissions from any operation involving demolition or removal of any product containing asbestos is prohibited by the rule, and strict reporting requirements must be followed to ensure compliance. Furthermore, the contractor in charge of construction must provide BAAQMD with a detailed description regarding the emission control equipment to be used. Because the Project Sponsor would be required to control asbestos emissions according to BAAQMD regulations, with no visible emissions present during demolition, receptors would not be exposed to substantial asbestos risks. Impacts associated with asbestos emissions would be ***less than significant.***

[47] Ibid.

[48] Jin, Ling. Associate transportation planner, Hexagon Transportation Consultants, Inc. February 18, 2022—email to Leo Mena, ICF, San Francisco, CA, regarding trip generation, distribution, and assignment assumptions for the 1125 O'Brien Drive Project.

[49] Ibid.

Diesel Particulate Matter and Localized PM2.5

DPM is a carcinogen contained in the exhaust of diesel internal-combustion engines. Project-related construction activities would generate DPM ($PM_{2.5}$ exhaust)[50] from off-road equipment and heavy-duty trucks. $PM_{2.5}$ exhaust and fugitive dust emissions would be generated from off-road equipment, onsite soil movement, and on-road travel of heavy-duty trucks and workers' vehicles.

Operational activities would generate DPM from the use of delivery trucks and testing of the emergency generator. $PM_{2.5}$ exhaust and fugitive dust emissions would be generated from the on-road travel of employees' vehicles and delivery trucks as well as testing of the emergency generator. These activities could expose offsite receptors to incremental increases in health risks.

Health impacts from exposure to DPM include cancer risks and chronic non-cancer risks. The HRA for the Proposed Project includes an evaluation of annual concentrations of $PM_{2.5}$ from exhaust and fugitive dust sources. As discussed previously, the cancer risk was evaluated for three scenarios: 1) construction only, 2) operations only, and 3) construction and operations.

Table 3.2-8 presents the maximum unmitigated health risks for residential receptors and school receptors under all scenarios. The evaluation of health risks for the construction-only scenario was based on an exposure duration of 1.29 years. For the construction-plus-operations scenario, the evaluation of cancer risk was based on an exposure duration of 1.29 years for construction and 28.71 years for operations (a total exposure-period of 30 years). For this scenario, the non-cancer HI and annual $PM_{2.5}$ concentrations were based solely on construction emissions because annual DPM and $PM_{2.5}$ emissions were highest for construction activities in years that did not overlap with operations. For the operations-only scenario, the evaluation was based on 30 years of post-construction exposure.

As shown in Table 3.2-8, below, there would be exceedances of the cancer risk threshold for nearby residential receptors because of proposed construction activities (for both the construction-only and construction-plus-operations scenarios). The non-cancer HI thresholds and $PM_{2.5}$ threshold would not be exceeded for these scenarios. The operations-only scenario would not result in any exceedances. Impacts would be significant.

MITIGATION MEASURES. To mitigate the cancer risk exceedance, Project Mitigation Measure AQ-2.1 would be implemented to require Tier 4 engines in off-road equipment, which would result in a reduction in DPM and $PM_{2.5}$ emissions. The resulting health risks and $PM_{2.5}$ concentrations with implementation of Project Mitigation Measure AQ-2.1 are shown in Table 3.2-9.

Although the Proposed Project would not meet the requirements for conducting additional analysis of trucks associated with operations, per ConnectMenlo Mitigation Measure AQ-3a, the Proposed Project would nonetheless be consistent with ConnectMenlo Mitigation Measure AQ-3a because truck-related impacts are included in this analysis for the operations-only and construction-plus-operations scenarios. In addition, ConnectMenlo Mitigation Measure AQ-3b would not apply to the Proposed Project. That measure applies to projects that involve new sensitive land uses (e.g., residences, hospitals, nursing homes, and day-care centers). The Proposed Project is not considered a sensitive land use.

[50] Per BAAQMD guidance, $PM_{2.5}$ exhaust is used as a surrogate for DPM.

Table 3.2-8. Estimated Unmitigated Project-Level Health Risk Results from Modeled Scenarios

Offsite Receptor Type	Cancer Risk (cases per million)	Non-Cancer Chronic Risk	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)
Scenario 1 – Construction Only			
Residents	**34.2**[a]	0.04	0.20
Students at Schools	1.3	0.02	0.10
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**Yes (resident receptors only)**	**No**	**No**
Scenario 2 – Operations Only			
Residents	2.8[a]	0.001	0.03
Students	3.1	0.0003	0.004
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**No**	**No**	**No**
Scenario 3 – Construction plus Operations			
Residents	**36.2**[a]	0.04[b]	0.20[b]
Students at Schools	3.5	0.02	0.09
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**Yes (resident receptors only)**	**No**	**No**

See Appendix 3.2 for detailed modeling files.

Notes:

Exceedances of thresholds are indicated with bold and underlined text.

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

a. For the construction-only scenario, the evaluation of cancer risk was modeled for an exposure duration with 1.29 years of construction. For the construction-plus-operations scenario, the operational risk was modeled for 28.71 years of operations. For the operations-only scenario, the risk was modeled for 30 years of operations.

b. Non-cancer HI and annual $PM_{2.5}$ concentrations were based solely on annual construction emissions.

Table 3.2-9. Estimated Mitigated Project-Level Health Risk Results from Modeled Scenarios

Offsite Receptor Type	Cancer Risk (cases per million)	Non-Cancer Chronic Risk	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)
Scenario 1 – Construction Only			
Residents	4.0	0.004	0.03
Students at Schools	0.2	0.002	0.02
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**No**	**No**	**No**
Scenario 2 – Operations Only			
Residents	2.8[a]	0.001	0.03
Students	3.1	0.0003	0.004
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**No**	**No**	**No**
Scenario 3 – Construction plus Operations			
Resident	6.0[a]	0.004[b]	0.03[b]
Students at Schools	2.9	0.002	0.02
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**No**	**No**	**No**

See Appendix 3.2 for detailed modeling files.

Notes:

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

a. For the construction-only scenario, the evaluation of cancer risk was modeled for an exposure duration with 1.29 years of construction. For the construction-plus-operations scenario, risk was modeled for 28.71 years of operations. For the operations-only scenario, the risk was modeled for 30 years of operations. As such, the results from Scenario 1 and Scenario 2 do not sum together to equal the results from Scenario 3.

b. Non-cancer HI and annual $PM_{2.5}$ concentrations were based solely on annual construction emissions.

As shown in Table 3.2-9, with implementation of Mitigation Measure AQ-2.1, the incremental increase in cancer risks for the construction-only and construction-plus-operations scenarios would fall below the BAAQMD cancer health risk threshold. The health risks and $PM_{2.5}$ concentrations for all receptors and for all scenarios would thus be below the BAAQMD thresholds. Therefore, mitigated construction emissions would not expose sensitive receptors to substantial pollutant concentrations and associated health risks, and impacts would be ***less than significant with mitigation.***

AQ-2.1 *Use Clean Diesel-powered Equipment during Construction to Control Construction-related Emissions.* The Project Sponsor shall ensure that all off-road diesel-powered equipment greater than 200 horsepower used during construction is equipped with EPA-approved Tier 4 Final engines to reduce DPM emissions. Before the start of construction, the Project Sponsor shall submit evidence of the use of EPA-approved Tier 4 Final engines, or cleaner, to the City for review and approval. The evidence shall provide a reasonable level of detail regarding how the Tier 4 Final engine requirement will be met. The Project Sponsor shall submit a report to the City prior to the beginning of each construction phase (e.g., demolition, grading, foundation) that demonstrates continued compliance with the Tier 4 Final engine requirement.

Cumulative Impacts

Impact C-AQ-1: The Proposed Project would not result in a cumulatively considerable net increase in any criteria pollutants. (LTS/M)

As discussed above in Impact AQ-1, the Proposed Project would not exceed the established BAAQMD regional construction and operational mass thresholds, which are inherently cumulative. Thus, as the Proposed Project would not exceed these regional thresholds, the Proposed Project would not slow the regional process toward attaining the NAAQS, and would not cause a cumulative impact. Impacts from cumulative criteria pollutant emissions would be ***less than significant with mitigation***.

Impact C-AQ-2: The Proposed Project would not make a cumulatively considerable contribution to an impact related to toxic air contaminant emissions (LTS/M)

According to BAAQMD's CEQA Air Quality Guidelines, combined risk levels should be determined for all TAC sources within 1,000 feet of a project site and compared to BAAQMD's cumulative health risk thresholds.[51]

Nearby TAC sources as well as the Proposed Project's construction and operational emissions could contribute to a cumulative health risk for sensitive receptors near the Project site. BAAQMD's inventory of stationary health risks were used to estimate the combined levels of health risk from existing stationary sources in combination with the Proposed Project. Geographic information system (GIS) raster files provided by BAAQMD were used to estimate roadway and railway emissions.[52] The methods used to estimate Project-related TAC emissions and health risks are described in Impact AQ-1, Impact AQ-2, and Appendix 3.2. The results of the cumulative impact assessment are summarized in Tables 3.2-10 and 3.2-11 for residential and school receptors, respectively. The tables show the health risk values for the Proposed Project's maximally affected receptors and the health risk contributions from existing sources. The sum of Project health risk values and existing background health risk values is compared to BAAQMD cumulative thresholds. Additional data on individual background contributions from existing sources are included in Appendix 3.2.

As shown in Tables 3.2-10 and 3.2-11, below, the combined level of health risks from the Proposed Project and other local sources of TACs would be less than all BAAQMD-recommended cumulative health risk thresholds for residential and school receptors. Therefore, the cumulative effect of health risks associated with TACs emitted by the Proposed Project in combination with health risks associated with other nearby TAC sources would not result in a cumulative considerable local health risk at any nearby sensitive land uses. This impact would be ***less than significant with mitigation***.

[51] Ibid.

[52] Winkel, Jackie. Principal environmental planner, Bay Area Air Quality Management District. April 12, 2018—email to Darrin Trageser, ICF, Sacramento, CA, regarding GIS files containing data on background health risks from railroads, major roads, and highway sources within BAAQMD jurisdiction.

Table 3.2-10. Maximum Cumulative Health Risks – Residential Receptors

Source[b]	Maximum Affected Residential Receptor		
	Cancer Risk (per million)	Non-Cancer Chronic Hazard Index[a]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Scenarios 1 and 3 (Construction Only and Construction plus Operations)			
Existing Sources			
Stationary Sources	1.0	0.06	0.02
Roadway Sources	13.6	—	0.28
Rail Sources	2.4	—	0.00
Existing Total	17.0	0.06	0.30
Project Sources			
Project Construction (1.29-year exposure duration)[b]	4.0	0.004	0.03
Project Operations (28.71-year exposure duration)	2.0	—	—
Existing plus Project			
Existing plus Construction plus Operations (cancer only)	23.0	—	—
Existing plus Construction (chronic HI/annual $PM_{2.5}$)	—	0.063	0.34
BAAQMD Cumulative Thresholds	100	10.0	0.8
Exceeds Thresholds?	**No**	**No**	**No**
Scenario 2 (Operations Only)			
Existing Sources			
Stationary	1.0	0.06	0.02
Roadway	12.9	—	0.74
Rail	2.4	—	0.005
Existing Total	16.2	0.06	0.758
Project Sources			
Project Operations (30-year exposure duration)	2.8	0.001	0.026
Existing Plus Project			
Existing plus Operations	19.0	0.061	0.78
BAAQMD Cumulative Thresholds	100	10.00	0.8
Exceeds Thresholds?	**No**	**No**	**No**

See Appendix 3.2 for detailed modeling files.

Notes:

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

a. Data were not available for chronic values for roadway and rail sources.

b. Project construction-related risks and $PM_{2.5}$ concentration are represented by the mitigated values from Table 3.2-9.

Table 3.2-11. Maximum Cumulative Health Risks – School Receptor

Source[b]	Maximum Affected Residential Receptor		
	Cancer Risk (per million)	Non-Cancer Chronic Hazard Index[a]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Scenarios 1 and 3 (Construction Only and Construction plus Operations)			
Existing Sources			
Stationary	0.9	0.06	0.02
Roadway	11.3	—	0.23
Rail	2.4	—	0.005
Existing Total	14.6	0.06	0.26
Project Sources			
Project Construction (1.29-year exposure duration)	0.2	0.002	0.02
Project Operations (28.71-year exposure duration)	2.9	—	—
Existing plus Project			
Existing plus Construction plus Operations (cancer only)	17.7	—	—
Existing plus Construction (chronic HI/annual $PM_{2.5}$)	—	0.061	0.3
BAAQMD Cumulative Thresholds	100	10.0	0.8
Exceeds Thresholds?	**No**	**No**	**No**
Scenario 2 (Operations Only)			
Existing Sources			
Stationary	0.9	0.06	0.02
Roadway	11.3	—	0.74
Rail	2.4	—	0.005
Existing Total	14.6	0.06	0.76
Project Sources			
Project Operations (30-year exposure duration)	3.1	0.0003	0.004
Existing Plus Project			
Existing plus Operations	17.7	0.06	0.764
BAAQMD Cumulative Thresholds	100	10.00	0.8
Exceeds Thresholds?	**No**	**No**	**No**

See Appendix 3.2 for detailed modeling files.

Notes:

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

a. Data were not available for chronic values for roadway and rail sources.

b. Project construction-related risks and $PM_{2.5}$ concentration are represented by the mitigated values from Table 3.2-9.

Air Quality Analysis of Waterline Upgrades

As described in Chapter 2, *Project Description*, and the 1350 Adams Court EIR,[53] the existing water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may be developed before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and the required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

The findings of the 1350 Adams Court EIR are summarized below.

- Regarding criteria pollutant emissions, Table 3.2-6 of Section 3.2, Air Quality, in the 1350 Adams Court EIR presents emissions from waterline construction and confirms that waterline emissions would not exceed the BAAQMD thresholds. That conclusion would also be true if the Proposed Project is developed before 1350 Adams Court, because the waterline construciton activities would not overlap with the Proposed Project construction activities, as required by the conditions of approval for the 1125 O'Brien project. Thus, the waterline emissions would not overlap with the maximum daily emissions for the Proposed Project shown in Table 3.2-6 of this EIR. The EIR for the 1350 Adams Court project found that criteria pollutant emissions would not exceed BAAQMD thresholds, and impacts associated with the waterline would be ***less than significant.***
- The 1350 Adams Court EIR also analyzed impacts associated with the construction of that project and waterline construction and determined that health risks and $PM_{2.5}$ concentrations with mitigation would not exceed the BAAQMD thresholds. The 1350 Adams Court EIR analysis modeled construction of the waterline, which affects the same sensitive receptors included in the modeling analysis of the Proposed Project. As such, the results at these sensitive receptors from the 1350 Adams Court EIR analysis of the waterline construction are also applicable to the Proposed Project. The EIR for the 1350 Adams Court project found that health risks and $PM_{2.5}$ concentrations and impacts associated with the waterline would be ***less than significant with mitigation.***
- The contribution of the waterline construction emissions to health risks and $PM_{2.5}$ concentrations is a small portion of the total values shown in Table 3.2-10 of the 1350 Adams Court EIR. As presented in Appendix 3.2, Air Quality Analysis Modeling Files for the 1350 Adams Court EIR, the maximum health risks from only the waterline construction activities would be 0.32 cancer cases per million and a chronic risk of 0.0011. The maximum $PM_{2.5}$ concentration from only the waterline construction would be 0.0058 $\mu g/m^3$. As shown in Table 3.2-9 of this EIR, the cancer risk, chronic risk, and $PM_{2.5}$ concentration values are below all thresholds, and adding the contributions from the waterline would not cause the values to exceed the

[53] City of Menlo Park. 2022. *1350 Adams Court Draft EIR*. Section 3.2, Air Quality. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

thresholds. For example, the maximum cancer risk value from Table 3.2-9 of this EIR is 6.0, and the addition of the waterline contribution from the 1350 Adams Court EIR (0.32 cases/million) would result in a value of 6.32 cases/million, which remains well below the BAAQMD threshold of 10 cases/million. The EIR for the 1350 Adams Court project found that waterline construction would not cause any exceedances of the BAAQMD thresholds for health risks or $PM_{2.5}$ concentrations. This impact would be ***less than significant***.

The EIR for the 1350 Adams Court Project concluded that that project would not have a significant impact on air quality with implementation of the following mitigation measures from the 1350 Adams Court Project Mitigation Monitoring Program to reduce potential air quality impacts: Mitigation Measures AQ1.1, Use Clean Diesel-powered Equipment during Construction to Control Construction-related Emissions; GHG-1.1, Implementation of BAAQMD-recommended Construction Best Management Practices; and ConnectMenlo Mitigation Measure AQ-2b1, Compliance with BAAQMD Control Measures. Therefore, the EIR for the 1350 Adams Court project determined that the impact of the waterline upgrades on air quality would be ***less than significant with mitigation.*** The same mitigation measures would be included in the Proposed Project to the extent applicable if the Project Sponsor becomes responsible for waterline construction.

3.3 Greenhouse Gas Emissions

This section presents a summary of the current state of climate change science, a summary of greenhouse gas (GHG) emission sources in California, a summary of applicable regulations, quantification of Project-generated GHG emissions, a discussion about the potential contribution of Project-generated GHG emissions to global climate change, a qualitative analysis of the Proposed Project's consistency with plans to reduce GHG emissions, and mitigation for significant impacts where feasible. Supporting GHG calculations are presented in Appendix 3.2.

No comments regarding GHG emissions were received in response to the Notice of Preparation (Appendix 1-2).

Existing Conditions

Environmental Setting

Global Climate Change

The process known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the atmosphere by GHGs. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thereby enhancing the greenhouse effect and amplifying the warming of Earth.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution.[1] Rising atmospheric concentrations of GHGs, in excess of natural levels, have resulted in increasing global surface temperatures—a process commonly referred to as *global warming*. Higher global surface temperatures have, in turn, resulted in changes to Earth's climate system, including increases in ocean temperature and acidity, reduced sea ice, variable precipitation, and increases in the frequency and intensity of extreme weather events.[2] Large-scale changes to Earth's system are collectively referred to as *climate change.*

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC estimates that human-induced warming reached approximately 1 degree Celsius (°C) above pre-industrial levels in 2017 and is increasing at a rate of 0.2°C per decade. Under the current nationally determined contributions of mitigation from each country until 2030, global temperature is expected to rise by 3°C by 2100 and continue rising afterward.[3] Large increases in global temperatures could have substantial adverse effects on the natural and human environments worldwide, including California.

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1 Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Available: https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf. Accessed: July 14, 2022.

2 Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5°C.* Contribution of Working Groups I, II, and III (Summary for Policy Makers). Available: https://www.ipcc.ch/sr15/chapter/spm/. Accessed: July 14, 2022.

3 Ibid.

Greenhouse Gases

The principle anthropogenic (human-made) GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride, hydrofluorocarbons (HFCs), and perfluorocarbons. The primary GHGs that would be emitted by Project-related construction and operations include CO_2, CH_4, and N_2O. The principal characteristics of these GHGs are discussed below.

Carbon dioxide enters the atmosphere through the combustion of fossil fuel (i.e., oil, natural gas, coal), solid waste decomposition, plant and animal respiration, and chemical reactions (e.g., from manufacturing cement). CO_2 is also removed from the atmosphere, or *sequestered*, when it is absorbed by plants as part of the biological carbon cycle.

Methane is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices as well as the anaerobic decay of organic waste in municipal solid waste landfills.

Nitrous oxide is emitted by agricultural and industrial activities as well as the combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method for comparing GHG emissions is the global warming potential (GWP) methodology defined in IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2. By definition, CO_2 has a GWP of 1.

Table 3.3-1 lists the global warming potential of CO_2, CH_4, and N_2O and their lifetimes in the atmosphere.

Table 3.3-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)
Carbon Dioxide (CO_2)	1	—[a]
Methane (CH_4)	25	12
Nitrous Oxide (N_2O)	298	114

Source: California Air Resources Board. 2020. *GHG Global Warming Potentials*. Available: https://ww2.arb.ca.gov/ghg-gwps. Accessed: July 14, 2022.

a. No lifetime (years) for carbon dioxide was presented by the California Air Resources Board.

The California Air Resources Board (CARB) recognizes the importance of reducing emissions of short-lived climate pollutants (SLCPs), as described in the *Regulatory Setting,* to achieve the state's overall climate change goals. Short-lived climate pollutants have atmospheric lifetimes on the order of a few days to a few decades, and their relative climate-forcing impacts, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2.[4] Given their short-term lifespan and warming impact, short-lived climate pollutants are measured in terms of CO_2e using a 20-year time period. The use of GWPs with a time horizon of 20 years captures the importance of the short-lived climate pollutants and gives a better perspective as to the speed at which

[4] California Air Resources Board. 2017a. *Short-Lived Climate Pollutant Reduction Strategy*. Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf. Accessed: July 14, 2022.

emission controls will affect the atmosphere relative to CO_2 emission controls. The Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy), as discussed in the *Regulatory Setting*, addresses CH_4, HFC gases, and anthropogenic black carbon. CH_4 has lifetime of 12 years and a 20-year GWP of 72. HFC gases have lifetimes of 1.4 to 52 years and a 20-year GWP of 437 to 6,350. Anthropogenic black carbon has a lifetime of a few days to weeks and a 20-year GWP of 3,200.[5]

Greenhouse Gas Reporting

A GHG inventory is a quantification of all GHG emissions and sinks[6] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a building or person). Several agencies have developed tools for quantifying emissions from certain sources.

Potential Climate Change Effects

Climate change is a complex process that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea-level rise, both globally and in San Francisco Bay, as well as changes in climate and rainfall, among other effects, there remains uncertainty about characterizing precise local climate characteristics and predicting precisely how various ecological and social systems will react to changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change has occurred and will continue to occur in the future, although the precise extent will take further research to define. Specifically, the effects from global climate change in California and worldwide include the following:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates, with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.[7]
- Rising average global sea levels, due primarily to thermal expansion in the oceans and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets.[8]
- Changing weather patterns, including changes in precipitation and wind patterns, and more energetic episodes of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and intense tropical cyclones.[9]
- Declining Sierra Nevada snowpack levels, which account for approximately half of the surface water storage in California. Snow levels could decline by 70 to as much as 90 percent over the next 100 years.[10]

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5 Ibid.

6 A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

7 California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment Statewide Summary Report*. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf. Accessed: July 14, 2022.

8 Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5°C.* Contribution of Working Group I, II, and III (Summary for Policy Makers). Available: https://www.ipcc.ch/sr15/chapter/spm/. Accessed: July 14, 2022.

9 Ibid.

10 California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment Statewide Summary Report*. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf. Accessed: July 14, 2022.

- Increases in the number of days that could be conducive to ground-level ozone formation (e.g., clear days with intense sunlight) by the end of the 21st century in areas with high levels of ozone. The number of days could increase by 25 to 85 percent, depending on the future temperature scenario.[11]
- Increases in the potential for erosion of California's coastlines as well as seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[12]
- The severity of drought conditions in California could be exacerbated (e.g., durations and intensities could be amplified, ultimately increasing the risk of wildfires and consequential damage).[13]
- Under changing climate conditions, agricultural operations are forecast to experience lower crop yields due to extreme heat waves, heat stress, increased water needs of crops and livestock (particularly during dry and warm years), and new and changing pest and disease threats.[14]

The impacts of climate change, such as increases in the number of heat-related events, droughts, and wildfires, pose direct and indirect risks to public health, with people experiencing worsening episodes of illness and an earlier death. Indirect impacts on public health include increases in incidents of vector-borne diseases, stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.[15]

Regulatory Setting

Federal

Several federal executive orders (EOs) have recently been signed by President Joe Biden related to GHG emissions and climate resiliency. EO 13990, signed in January 2021, set a national goal to achieve a 50 to 52 percent reduction from 2005 levels in economy-wide net GHG pollution in 2030. EO 14057, signed in December 2021, requires federal agencies to develop strategic processes for achieving, among other things, carbon-free electricity by 2030 and 100 percent zero-emission vehicle acquisitions by 2035. President Joe Biden has also signed two bills—Infrastructure Investment and Jobs Act (2021) and Inflation Reduction Act (2022)—that provide funding for infrastructure improvements that will reduce GHG emissions and bolster resilience to climate change. Despite these actions, there is currently no federal law or legislatively mandated national GHG reduction target.

Corporate Average Fuel Economy Standards

The National Highway Traffic Safety Administration's (NHTSA's) Corporate Average Fuel Economy (CAFE) standards require substantial improvements in fuel economy and reductions in GHG emissions generated by passenger cars and light-duty trucks sold in the United States. On August 2, 2018, NHTSA and EPA proposed amendments to the current fuel efficiency standards for passenger cars and light-duty trucks and new standards for model years 2021 through 2026. Under the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, current 2020 standards would be maintained through 2026. On

[11] Ibid.
[12] Ibid.
[13] Ibid.
[14] Ibid.
[15] Ibid.

September 19, 2019, EPA and NHTSA issued a final action on the One National Program Rule, which is considered Part One of the SAFE Vehicles Rule and a precursor to the proposed fuel efficiency standards. The One National Program Rule enables EPA/NHTSA to provide nationwide uniform fuel economy and GHG vehicle standards by 1) clarifying that federal law preempts state and local tailpipe GHG standards, 2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and 3) withdrawing California's CAA preemption waiver to set state-specific standards.

EPA and NHTSA published their decision to withdraw California's waiver and finalize regulatory text related to the preemption on September 27, 2019 (84 *Federal Register* 51310). California, 22 other states, the District of Columbia, and two cities filed suit against Part One of the SAFE Vehicles Rule on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv-02826, U.S. District Court for the District of Columbia). On October 28, 2019, the Union of Concerned Scientists, Environmental Defense Fund, and other groups filed a protective petition for review after the federal government sought to transfer the suit to the D.C. Circuit (*Union of Concerned Scientists v. National Highway Traffic Safety Administration*). The lawsuit filed by California and others is stayed pending resolution of the petition.

EPA and NTHSA published final rules to amend and establish national CO_2 and fuel economy standards on April 30, 2020 (Part Two of the SAFE Vehicles Rule) (85 *Federal Register* 24174). The revised rule changes the national fuel economy standards for light-duty vehicles from 46.7 to 40.4 miles per gallon in future years. California, 22 other states, the District of Columbia filed a petition for review of the final rule on May 27, 2020.[16]

On April 22, 2021, NHTSA announced plans to repeal the SAFE Vehicles Rule, Part One, allowing California the right to set its own standards.[17] On December 12, 2021, NHTSA repealed the SAFE Vehicles Rule, Part One. On December 19, 2021, NTSA finalized its vehicle efficiency standards rule to reach a projected industry-wide target of 40 miles per gallon by 2026, an approximately 25 percent increase over the prior SAFE rule. On March 9, 2022, EPA reinstated California's authority under the CAA to implement its own GHG emission standards and zero-emission-vehicle (ZEV) sales mandate. This action concludes EPA reconsideration of 2019's SAFE Vehicles Rule, Part One, 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. [18]

State

Statewide GHG Emission Targets and the Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately two decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and then reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). Executive Order S-3-05 calls for

[16] *California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the District of Columbia,

[17] U.S. Department of Transportation, National Highway Transportation Safety Administration. 2021. *Corporate Average Fuel Economy.* Available: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy. Accessed: July 14, 2022.

[18] U.S. Environmental Protection Agency. 2022. *EPA Restores California's authority to Enforce Greenhouse Gas Emission Standards for Cars and Light Trucks*. March 9. Available: https://www.epa.gov/newsreleases/epa-restores-californias-authority-enforce-greenhouse-gas-emission-standards-cars-and. Accessed: July 14, 2022.

statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2°C, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected.[19] Executive Order B-55-18 further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. Based on worldwide scientific agreement that carbon neutrality must be achieved by midcentury, Executive Order B-55-18 establishes a state goal to achieve carbon neutrality as soon as possible but no later than 2045 and achieve and maintain net negative emissions thereafter. Executive Order B-55-18 charges CARB with developing a framework for implementing and tracking progress toward these goals. This executive order extends Executive Order S-3-05 and acknowledges the role of increased carbon sequestration on natural and working lands for the state to achieve carbon neutrality and become net carbon negative.

AB 1279 (Health and Safety Code Section 38562.2) requires California to achieve net zero GHG emissions (i.e., reach a balance between the GHGs emitted and removed from the atmosphere) no later than 2045 and to achieve and maintain net negative GHG emissions from then on. It also mandates an 85 percent reduction in statewide anthropogenic GHG emissions (from 1990 levels) by 2045. AB 1279 recognizes that meeting these targets requires direct GHG emission reductions and removal of carbon dioxide from the atmosphere, as well as a nearly complete transition from fossil fuels. As such, the bill directs CARB to work with relevant state agencies to ensure Scoping Plan updates include measures that put California on a trajectory to achieve these targets. It also tasks CARB with implementing strategies that facilitate carbon dioxide removal solutions and carbon capture, utilization, and storage technologies. To evaluate the State's progress, AB 1279 requires that CARB report progress toward these targets to the Legislature annually. By 2035, the bill directs CARB to assess the feasibility and tradeoffs of reducing statewide anthropogenic GHG emissions to 85 percent below 1990 levels by 2045 and report its findings to the Legislature.

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emissions target for 2030 and "substantially advance toward our 2050 climate goals."[20] It identifies the reductions needed by each GHG emission sector (e.g., industry, transportation, electricity generation). CARB adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* in November 2022 to identify a technologically feasible, cost-effective and equity-focused path to achieve carbon neutrality by 2045, pursuant to AB 1279.[21] The plan also assesses California's progress toward meeting the GHG emissions reduction goal called for in SB 32. The state has also passed more detailed legislation to address GHG emissions associated with industrial sources, transportation, electricity generation, and energy consumption, as summarized below.

[19] United Nations. 2015. *Historic Paris Agreement on Climate Change: 195 Nations Set Path to Keep Temperature Rise Well below 2 Degrees Celsius.* December 13. Available: https://unfccc.int/news/finale-cop21. Accessed: April 19, 2022.

[20] California Air Resources Board. 2017b. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. November. Pages 1, 3, 5, 20, 25, and 26. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: July 14, 2022.

[21] California Air Resources Board. 2022. *2022 Scoping Plan for Achieving Carbon Neutrality*. November 16. Available: https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf. Accessed: January 12, 2023.

Transportation-related Standards and Regulations

As part of its Advanced Clean Cars program, CARB established more stringent GHG emissions standards and fuel efficiency standards for fossil fuel–powered on-road vehicles. These regulations are projected to reduce GHG emissions from new vehicles by approximately 40 percent in 2025 relative to 2012 model-year vehicles.[22] In addition, the program's ZEV regulation requires battery, fuel cell, and plug-in hybrid electric vehicles (EVs) to make up a growing percentage of California's new vehicle sales. By 2025, when the rules are fully implemented, the statewide fleet of new cars and light-duty trucks will emit 75 percent less smog-forming pollution than the statewide fleet in 2012.[23]

In August 2022, the CARB Board members voted to approve the Advanced Clean Cars II proposal, which will dramatically reduce emissions from passenger cars for model years 2026 through 2035. It requires an increasing proportion of new vehicles to be zero-emission vehicles, with the goal of 100 percent zero emission vehicles for new vehicles sold by 2035.[24]

CARB also adopted the Advanced Clean Truck Regulation to accelerate a large-scale transition of zero-emission medium-and-heavy-duty vehicles. The regulation requires the sale of zero-emission medium-and-heavy-duty vehicles as an increasing percentage of total annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b to 3 truck sales, 75 percent of Class 4 to 8 straight truck sales, and 40 percent of truck tractor sales. By 2045, every new medium-and-heavy-duty truck sold in California will be zero-emission. Large employers—including retailers, manufacturers, brokers, and others—are required to report information about shipments and shuttle services to better ensure that fleets purchase available zero-emission trucks.

Executive Order B-48-18, signed into law in January 2018, requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, 200 hydrogen fueling stations available, and 250,000 EV charging stations installed by 2025. Furthermore, it specifies that 10,000 of these charging stations must be direct-current fast chargers.

In 2007, CARB adopted the Low-Carbon Fuel Standard to reduce the carbon intensity of California's transportation fuels. The Low-Carbon Fuel Standard applies to fuels used by on-road motor vehicles as well as off-road vehicles, including construction equipment. In addition to regulations to address issues related to tailpipe emissions and transportation fuels, the state legislature has passed regulations to address issues related to the number of miles driven in on-road vehicles.

Since passage of SB 375 in 2008, CARB has required metropolitan planning organizations to adopt plans that show reductions in GHG emissions from passenger cars and light-duty trucks in their respective regions for 2020 and 2035.[25] These plans link land use and housing allocations to transportation planning and related mobile-source emissions. The Metropolitan Transportation Commission (MTC) serves as the metropolitan planning organization for the nine counties in the Bay Area region, including San Mateo County, which is where the Project site is located.

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[22] California Air Resources Board. 2021. *Advanced Clean Cars Program*. Available: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about. Accessed: April 19, 2022.

[23] Ibid.

[24] California Air Resources Board. 2022. Proposed Advanced Clean Cars II Regulations: All new Passenger Vehicles Sold in California to be Zero Emissions by 2035. Available: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii. Accessed: January 12, 2023.

[25] California Air Resources Board. 2018a. *SB 375 Regional Greenhouse Gas Emissions Reduction Targets*. Approved by the California Air Resources Board on March 22, 2018. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: April 19, 2022.

Under SB 743, in 2013, the Governor's Office of Planning and Research (OPR) implemented changes to the California Environmental Quality Act (CEQA) Guidelines, including the addition of Section 15064.3, which requires CEQA transportation analyses to move away from a focus on vehicle delay and level of service.[26] In support of these changes, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which recommends that the determination of the transportation impact of a project be based on whether project-related vehicle miles traveled (VMT) per capita (or VMT per employee) would be 15 percent lower than that of existing development in the region.[27] OPR's technical advisory explains that this criterion is consistent with Section 21099 of the California Public Resources Code, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions."[28] This metric is intended to replace the use of vehicle delay and level of service to measure transportation-related impacts. More detail about SB 743 is provided under *Regulatory Setting* in Section 3.1, *Transportation*. At the time when the environmental impact report (EIR) for the General Plan and M-2 Area Zoning Update (Connect Menlo) was prepared, the California Natural Resources Agency had not yet adopted OPR's proposed addition of Section 15064.3 to the CEQA Guidelines.

Legislation Associated with Electricity Generation

The state passed legislation that requires increasing use of renewables to produce electricity for consumers. Specifically, California utilities are required to generate 52 percent of their electricity from renewables by 2027 (SB 100), 60 percent by 2030 (SB 100), 95 percent by 2035 (SB 1020), 95 percent by 2040 (SB 1020), and 100 percent by 2045 (SB 100/SB 1020). SB 1020 also requires state agencies to rely on 100 percent renewable energy and zero-carbon resources to serve their own facilities by 2030.

Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the California Code of Regulations (CCR), Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements to reduce energy consumption, resulting in lower GHG emissions. The 2019 California Energy Code, effective January 1, 2020, required builders to use more energy-efficient building technologies to comply with requirements regarding energy use. CEC estimated that the 2019 California Energy Code would result in new commercial buildings that would use 30 percent less energy than those designed to meet the 2016 California Energy Code, primarily through transitions to high-efficacy lighting.[29]

[26] Governor's Office of Planning and Research. 2017a. *Proposed Updates to the CEQA Guidelines*. November. Available: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf. Accessed: July 14, 2022.

[27] Governor's Office of Planning and Research. 2017b. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. November. Available: http://www.opr.ca.gov/docs/20171127_Transportation_Analysis_TA_Nov_2017.pdf. Accessed: July 14, 2022.

[28] Ibid.

[29] California Energy Commission. 2018. *2019 Building Energy Efficiency Standards: Frequently Asked Questions.* March. Available: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf. Accessed: July 14, 2022.

Clean Energy and Pollution Reduction Act of 2015

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions require the following by 2030: 1) a Renewables Portfolio Standard (RPS) of 50 percent (which has since been increased by subsequent legislation, as noted above) and 2) a doubling of energy efficiency by 2030, including improvements to the efficiency of existing buildings. These provisions will be implemented by future actions of the California Public Utilities Commission and CEC.

Solid Waste Diversion Regulations

To minimize the amount of solid waste that must be disposed of in landfills, the state legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to state agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal.

In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 1, 2012, the resulting mandatory commercial recycling required certain businesses that generate 4 cubic yards or more of commercial solid waste per week to arrange recycling services. To comply with this requirement, businesses could either separate recyclables and self-haul them or subscribe to a recycling service with mixed-waste processing. AB 341 also established a statewide recycling goal of 75 percent; under AB 939, the 50 percent disposal reduction mandate still applied to cities and counties.

Cap-and-Trade Program

CARB administers the state's cap-and-trade program, which covers GHG sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. This market-based approach to reducing GHG emissions provides economic incentives for achieving GHG emission reductions.

Short-Lived Climate Pollutant Reduction Strategy

In 2014, SB 605 directed CARB, in coordination with other state agencies and local air districts, to develop a comprehensive SLCP Reduction Strategy. In 2016, SB 1383 directed CARB to approve and implement the SLCP Reduction Strategy to achieve the following reductions in SLCPs:

- 40 percent reduction in CH_4 relative to 2013 levels by 2030,
- 40 percent reduction in HFC gases relative to 2013 levels by 2030, and
- 50 percent reduction in anthropogenic black carbon relative to 2013 levels by 2030.

SB 1383 also establishes the following targets for reducing organic waste in landfills as well as CH_4 emissions from dairy and livestock operations, as follows:

- 50 percent reduction in organic waste disposal relative to 2014 levels by 2020,
- 75 percent reduction in organic waste disposal relative to 2014 levels by 2025, and
- 40 percent reduction in CH_4 emissions from livestock and dairy manure management operations relative to the livestock and dairy sectors' 2013 levels by 2030.

CARB and CalRecycle have developed regulations to achieve the organic waste reduction goals under SB 1383. In January 2019 and June 2019, CalRecycle proposed new and amended regulations to CCR Title 14 and Title 27. Among other things, the regulations set forth minimum standards for organic waste collection, hauling, and composting. The final regulations took effect in January 1, 2022.

CARB adopted the SLCP Reduction Strategy in March 2017 as a framework for achieving the CH_4, HFC, and anthropogenic black carbon reduction targets set by SB 1383. The SLCP Reduction Strategy includes 10 measures to reduce SLCPs, which fit within a wide range of ongoing planning efforts throughout the state, including CARB's and CalRecycle's proposed rulemaking on organic waste diversion (discussed above).

Water Conservation Act of 2009

The overall goal of SB X7-7, the Water Conservation Act of 2009, was to reduce per capita urban water use by 20 percent as of December 31, 2020. The state was required to make incremental progress toward this goal by reducing per capita water use by at least 10 percent by December 31, 2015. This act is an implementing measure of the 2017 Scoping Plan that will continue to be implemented beyond 2020. Reductions in water consumption reduce the amount of energy, as well as the emissions, associated with conveying, treating, and distributing the water; emissions from wastewater treatment are also reduced.

Regional

Metropolitan Transportation Commission

The MTC is the metropolitan planning organization for the nine counties that make up the San Francisco Bay Area and the San Francisco Bay Area Air Basin (SFBAAB), including the city of Menlo Park. The first per capita GHG emissions reduction targets for the SFBAAB were 7 percent by 2020 and 15 percent by 2035 relative to 2005 levels. In 2013, MTC adopted an SCS as part of its RTP for the SFBAAB. This was known as Plan Bay Area. MTC was asked by CARB to achieve a 10 percent per capita reduction in emissions compared to 2005 levels by 2020 and a 16 percent per capita reduction by 2035. CARB confirmed that the region would achieve the targets by implementing the SCS.[30] On July 26, 2017, the strategic update to this plan, known as Plan Bay Area 2040, was adopted by ABAG and the MTC. As a limited and focused update, Plan Bay Area 2040 builds upon the growth pattern and strategies developed in the original Plan Bay Area but with updated planning assumptions that incorporate the key economic, demographic, and financial trends since 2013.[31] As required by SB 375, CARB updated the per capita GHG emissions reduction targets in 2018 for various metropolitan planning organizations across the state, including the MTC. The revisions resulted in a revised 2035 target of 19 percent per capita reduction.[32] The new targets are addressed in the latest update to Plan Bay Area, Plan Bay Area 2050,

[30] California Air Resources Board. 2018b. *Technical Evaluation of the Greenhouse Gas Emissions Reduction Quantification for the Association of Bay Area Governments' and Metropolitan Transportation Commission's SB 375 Sustainable Communities Strategy*. June. Available: https://www.arb.ca.gov/cc/sb375/mtc_final_staff_report_0718.pdf. Accessed: July 14, 2022.

[31] Metropolitan Transportation Commission and Association of Bay Area Governments. 2017. *Plan Bay Area 2040.* Adopted: July 26. Available: http://2040.planbayarea.org/files/2020-02/Final_Plan_Bay_Area_2040.pdf. Accessed: March 17, 2022.

[32] California Air Resources Board. 2018a. *SB 375 Regional Greenhouse Gas Emissions Reduction Targets*. Approved by the California Air Resources Board on March 22, 2018. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: May 23, 2022.

which was approved by ABAG and the MTC in October 2021.[33] Plan Bay Area 2050 carries forward many of the development and funding strategies of Plan Bay Area 2040. CARB provided comments on the SCS and technical modeling in summer 2021 and granted final approval for Plan Bay Area 2050 in December 2022.[34,35]

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for addressing air quality concerns in the San Francisco Bay Area, including San Mateo County. Its role is discussed further in Section 3.2, *Air Quality*. BAAQMD also recommends methods for analyzing project-related GHGs in CEQA analyses as well as multiple GHG reduction measures for land use development projects.

BAAQMD released its *Justification Report CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (BAAQMD Justification Report) in April 2022.[36] The BAAQMD Justification Report presents updates to the CEQA GHG thresholds from the 2017 CEQA Guidelines, which were not consistent with the statewide GHG target established by SB 32. The GHG thresholds of significance were updated to consider newer state reduction targets (e.g., SB 32) and plans for eventual carbon neutrality by 2045 (e.g., Executive Order B-55-18), as well as evolving case law. The BAAQMD Justification Report (and thus the GHG thresholds) was adopted by the Board of Directors on April 20, 2022.

In summary, the updated thresholds emphasize:

1. Avoiding wasting electricity and developing fossil fuel infrastructure (i.e., natural gas plumbing or appliances) in new buildings that will be in place for decades and thus conflict with carbon neutrality by 2045,
2. Compliance with California Green Building Standards Code (CALGreen) Tier 2 EV requirements and per capita VMT reductions consistent with SB 743, and
3. Consistency with a qualified GHG reduction strategy (also known as a Climate Action Plan [CAP]).

[33] Plan Bay Area 2050 has been challenged in court. Therefore, this EIR evaluates the Proposed Project's consistency with both Plan Bay Area 2040 and Plan Bay Area 2050.

[34] California Air Resources Board. 2022a. *Association of Bay Area Governments (ABAG) & Metropolitan Transportation Commission (MTC)*. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plans-evaluations/association-bay-area. Accessed: May 23, 2022.

[35] Metropolitan Transportation Commission. 2022. *State Air Regulators Greenlight Plan Bay Area 2050*. Available: https://mtc.ca.gov/news/state-air-regulators-greenlight-plan-bay-area-2050. Accessed: February 16, 2023.

[36] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans.* April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed: July 14, 2022.

Local

Menlo Park Climate Action Plan

The City of Menlo Park's (City's) CAP[37] identifies local emissions reduction strategies to help meet AB 32 targets. The CAP provides the emissions inventory for 2005 and 2013, the emissions forecast for 2020, a reduction goal for 2020, and a recommendation for GHG reduction strategies. Given the emissions inventory and forecast for 2020, the City adopted a GHG emissions reduction target in June 2013 of 27 percent below 2005 levels by 2020 to align with the goals of AB 32. The CAP recommends various community and municipal strategies for near-term and mid-term implementation. The emissions reduction strategies are generally focused on community actions because more than 99 percent of the emissions are from sources that are not directly controlled by the City. In October 2015, the City provided an update on the progress of the projects selected in the previous CAP update and provided a list of CAP projects for fiscal years 2015/2016 through 2019/2020.

The most recent update to the City's CAP, the 2030 CAP, was adopted in April 2021.[38] The 2030 CAP updated emissions inventories and adopted a climate goal that calls for zero carbon by 2030. The CAP also aims for a 90 percent reduction in CO_2e emissions from 2005 levels by 2030. Table 3.3-2 highlights the City's GHG emissions inventory for 2005, 2017, and 2030.

Table 3.3-2. City of Menlo Park Community Greenhouse Gas Emissions Inventory ($MTCO_2e$)

Emissions Sources	2005	2017	2030
Vehicle Travel (mobile-source)	137,628	158,686	18,373
Natural Gas Combustion	102,295	95,742	13,656
Electricity Consumption	87,617	21,528	—
Solid Waste Generation	21,745	8,424	2,903
Total Greenhouse Gas Emissions (metric tons CO_2e)	**349,285**	**284,380**	**34,933**

Source: City of Menlo Park. 2022a. *2030 Climate Action Plan*. Available: https://menlopark.gov/files/sharedassets/public/city-managers-office/documents/sustainability/2030-climate-action-plan-amended-2021.pdf . Accessed: July 14, 2022.
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

CEQA authorizes reliance on a previously approved GHG emissions reduction plan (e.g., a CAP) that was prepared as a "plan for the reduction of greenhouse gas emissions," per Section 15183.5 of the CEQA Guidelines. This section of the CEQA Guidelines establishes opportunities for CEQA tiering when projects are consistent with adopted GHG emissions reduction plans and their impacts can be determined to be less than significant, provided the GHG emissions reduction plans meet specific criteria established under Section 15183.5.

[37] City of Menlo Park. 2022a. *2030 Climate Action Plan*. Available: https://menlopark.gov/files/sharedassets/public/city-managers-office/documents/sustainability/2030-climate-action-plan-amended-2021.pdf. Accessed: July 14, 2022.

[38] Ibid.

The City CAP does not meet the requirements for tiering because environmental review showed that the draft 2030 CAP was intended to serve as a policy framework for future actions. Therefore, it is exempt from CEQA under Section 15262 of the CEQA Guidelines.[39,40] Consequently, because the City's 2030 CAP does not satisfy the tiering requirements established in Section 15183.5 of the CEQA Guidelines, it cannot be used to determine the significance of an individual project's GHG emissions. However, the 2030 CAP is a relevant plan for the purpose of reducing GHG emissions within Menlo Park; therefore, consistency with applicable 2030 CAP policies is analyzed in Impact GHG-2.

Menlo Park General Plan

The Menlo Park General Plan guides development and use of land within the city. Several goals and policies from the Open Space and Conservation Element of the Menlo Park General Plan apply broadly to GHG emissions, as presented below.

Goal OSC4: Promote Sustainability and Climate Action Planning.

Policy OSC4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher-density residential and mixed-use development adjacent to commercial centers and transit corridors, and (3) retail and office areas within walking and biking distance of transit or existing and proposed residential developments.

Policy OSC4.2: Sustainable Building. 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 OSC4.3: Renewable Energy. Promote the installation of renewable energy technology, such as in residences and businesses, by supporting education, employing social marketing methods, establishing standards, and/or providing incentives.

Policy OSC4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug-in recharging stations.

Policy OSC4.5: Energy Standards in Residential and Commercial Construction. 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 OSC4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per-person target of waste generation per person per day through 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.

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[39] City of Menlo Park. 2020b. *Staff Report 20-152-CC: Receive and File the Environmental Quality Commission's 2030 Climate Action Plan and Adopt Resolution No. 6575 to Adopt the Climate Action Plan as Amended with the Staff's Implementation Strategy.* Available: https://menlopark.org/DocumentCenter/View/25680/F1-20200714-CC-CAP. Accessed: July 14, 2022.

[40] CEQA Guidelines Section 15262 specifically states the following: "A project involving only feasibility or planning studies for possible future actions that the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an EIR or negative declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities."

Policy OSC4.8: Waste Diversion. Develop and implement a zero-waste policy or implement standards, incentives, or other programs that would lead the community toward 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.

ConnectMenlo, which updated the Land Use Element and Circulation Element of the Menlo Park General Plan, was adopted in November 2016. The following programs, policies, and goals in the Land Use and Circulation Elements, the scope of which includes the former M-2 Area, would be applicable to the Proposed Project:

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 (i.e., recycled/nonpotable water sources, including 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.

Program LU-7.A: Green Building Operation and Maintenance. Employ green building as well as operation-and-maintenance best practices, such as increasing energy efficiency, using renewable energy and reclaimed water, and installing drought-tolerant landscaping, for all projects.

Goal CIRC-3: Increase Mobility Options to Reduce Traffic Congestion, Greenhouse Gas Emissions, and Commute Travel Time.

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

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

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, such as transit, to reduce greenhouse gas emissions.

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.

Menlo Park Municipal Code

As discussed in Chapter 2, *Project Description*, the Project site is in the Life Sciences, Bonus (LS-B) zoning district. Consistent with the goals identified in ConnectMenlo, the City passed Ordinance No. 1025 for the Life Science (LS) zoning district under Title 16 of the Menlo Park Municipal Code.

Ordinance No. 1025 includes the following requirements that would be applicable to GHG-emitting activities associated with the Proposed Project:

Section 16.44.130, Green and Sustainable Building

In addition to meeting all applicable regulations specified in Title 12 (Buildings and Construction), the following provisions shall apply to projects (implementation of these provisions may be subject to separate discretionary review and environmental review pursuant to CEQA):

(1) Green Building.

(A) Any new construction, addition, or alteration of a building shall be required to comply with Table 16.44.130(1)(B). (This table summarizes green building requirements for new construction or alternations to nonresidential buildings. The requirements vary, based on the size of the building. Because the proposed building would be more than 100,000 gross square feet, it would be required to meet Leadership in Energy and Environmental Design (LEED) Gold requirements for Building Design and Construction. These include installing prewiring for EV charging stations at a minimum of 10 percent of the total number of required parking stalls, installing EV charging stations at a minimum of 15 percent of the required parking stalls, enrolling in EPA's Energy Star Portfolio Manager, and submitting documentation of compliance, as required by the City.)

(2) Energy.

(A) For all new construction, the project will meet one hundred percent (100%) of energy demand (electricity and natural gas) through any combination of the following measures:

(i) Onsite energy generation;

(ii) Purchase of 100 percent (100%) renewable electricity through Peninsula Clean Energy or Pacific Gas and Electric Company (PG&E) in an amount equal to the annual energy demand of the project;

(iii) Purchase and installation of local renewable energy generation within the city of Menlo Park in an amount equal to the annual energy demand of the project; and

(iv) Purchase of certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to the annual energy demand of the project. (For the GHG impact analysis in this CEQA document, it is assumed that this measure refers to carbon offsets from a CARB-approved registry or the California Air Pollution Control Officers Association's GHG Reduction Exchange and that the carbon offsets would be real, additional, permanent, verifiable, and enforceable, as defined in 17 CCR Section 95802.)

If a local amendment to the California Energy Code is approved by the CEC, the following provision becomes mandatory:

The project will meet 100 percent (100%) of energy demand (electricity and natural gas) through a minimum of 30 percent (30%) of the maximum feasible onsite energy generation, as determined by an onsite renewable energy feasibility study and any combination of the measures in Subsections (2)(A)(ii) to (iv). The onsite renewable energy feasibility study shall demonstrate the following cases at a minimum:

a. Maximum onsite generation potential;

b. Solar feasibility for roof and parking areas, excluding roof-mounted heating, ventilation, and air-conditioning equipment; and

c. Maximum solar generation potential solely on the roof area.

(3) Water Use Efficiency and Recycled Water.

(A) Single-pass[41] cooling systems shall be prohibited in all new buildings.

(B) All new buildings shall be built and maintained without the use of well water.

(C) Applicants for a new building with more than 100,000 square feet of gross floor area shall prepare and submit a proposed water budget and accompanying calculations following the methodology approved by the City. For all new buildings with 250,000 square feet or more in gross floor area, the water budget shall account for the potable water demand reduction resulting from the use of an alternative water source for all City-approved nonpotable applications. The water budget and calculations shall be reviewed and approved by the City's [P]ublic [W]orks [D]irector prior to certification of occupancy. Twelve months after the date of the certification of occupancy, the building owner shall submit data and information sufficient to allow the City to compare the actual water use to the allocation in the approved water budget. In the event that actual water consumption exceeds the water budget, a water conservation program, as approved by the City's [P]ublic [W]orks [D]irector, shall be implemented. Twelve months after City approval of the water conservation program, the building owner shall submit data and information sufficient to allow the City to determine compliance with the conservation program. If water consumption exceeds the budgeted amount, the City's [P]ublic [W]orks [D]irector may prohibit the use of water for irrigation or enforce compliance as an infraction, pursuant to Chapter 1.12, until compliance with the water budget is achieved.

(D) All new buildings shall be dual plumbed for the internal use of recycled water.

(E) All new buildings with 250,000 square feet or more in gross floor area shall use an alternate water source for all City-approved nonpotable applications. An alternative water source may include, but is not limited to, treated nonpotable water such as graywater. An alternate water source assessment shall be submitted that describes the alternative water source and proposed nonpotable application. Approval of the alternate water source assessment, the alternative water source, and its proposed uses shall be approved by the City's [P]ublic [W]orks [D]irector and [C]ommunity [D]evelopment Director. If the Menlo Park Municipal Water District has not designated a recycled water purveyor and/or

[41] In single-pass cooling systems, water is circulated through equipment one time and then discarded.

municipal recycled water source is not available prior to planning project approval, applicants may propose conservation measures to meet the requirements of this section subject to approval of the City Council. The conservation measures shall achieve a reduction in potable water use equivalent to the projected demand of City-approved nonpotable applications, but in no case shall the reduction be less than 30 percent compared to the water budget in Subsection (3)(C) of this section. The conservation measures may include onsite measures, offsite measures, or a combination thereof.

(F) Potable water shall not be used for dust control on construction projects.

(G) Potable water shall not be used for decorative features, unless the water recirculates.

Because the Proposed Project would be less than 250,000 square feet, it would not have to use an alternate water source.

Reach Code

Recent modifications to the 2019 California Building Standards Code took effect on January 1, 2020. The City adopted local amendments (in Chapters 12.16 and 12.18 of the Menlo Park Municipal Code) to the California Building Standards Code that would require electricity to be the only fuel source for new buildings (not natural gas) and increase EV parking accommodations. The electric buildings ordinance contained in Chapter 12.16 applies only to newly constructed buildings and does not include additions or remodels. Specifically, these modifications require:

1. New nonresidential and high-rise residential buildings to be all electric, with some exceptions, and produce a minimum amount of onsite solar, based on square footage.
2. Exceptions to the requirements can be requested from the building official. They include:
    a. Life science buildings may use natural gas for space heating, subject to providing third-party verification that electric space heating is not cost effective and feasible;
    b. Public agency owned and operated emergency operations centers (such as fire stations and police stations) may use natural gas; and
    c. Nonresidential kitchens (such as for-profit restaurants and cafeterias) may appeal to use natural gas stoves.
3. Solar requirements:
    a. Buildings with less than 10,000 square feet require a minimum of a 3-kilowatt photovoltaic system.
    b. Buildings that are greater than or equal to 10,000 square feet require a minimum of a 5-kilowatt photovoltaic system.

Electric-Vehicle Charger Requirements

The City adopted amendments to the CALGreen EV charging requirements within the California Building Standards Code on October 23, 2018. These amendments are in Sections 12.18.090 through 12.18.110 of the Menlo Park Municipal 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 nonresidential developments with 10,000 square feet or more are required to comply with local amendments to the CALGreen code and install EV chargers.

Environmental Impacts

Methods of Analysis

The level of GHG emissions associated with construction and operation of the Proposed Project was assessed and quantified using the California Emissions Estimator Model (CalEEMod), version 2020.4.0, and CARB's 2021 EMission FACtor (EMFAC) model, consistent with BAAQMD guidance. A summary of the methodology is provided below. A full list of assumptions regarding modeling input parameters is provided in Appendix 3.2.

Construction-related Emissions

Construction of the Proposed Project, which would have a duration of approximately 16 months, would result in emissions of CO_2, CH_4, and N_2O. During construction, GHG emissions would result from off-road equipment exhaust as well as exhaust from employees' vehicles and haul trucks. These emissions were estimated using a combination of emission factors and methodologies from CalEEMod (version 2020.4.0)[42] and CARB's EMFAC2021.[43] The estimates relied on a combination of CalEEMod default data values as well as Project-specific information provided by the Project Sponsor. Detailed model assumptions and inputs for the calculations can be found in Appendix 3.2.

Operational Emissions

Once construction is completed and the building is occupied, GHG emissions would be emitted by motor vehicles traveling to and from the Project site. These emissions were estimated using vehicle emission factors from CARB's EMFAC2021,[44] traffic data (annual VMT and the number of daily vehicle trips) provided by Hexagon,[45] and the CalEEMod software. The traffic data, along with the EMFAC201 vehicle emission factors, were entered into the mobile-source module of CalEEMod to determine the emissions of GHG emitted by Project-related vehicle trips.

GHG emissions associated with landscape maintenance and backup diesel generator operation were also estimated using the applicable modules in CalEEMod. GHG emissions associated with the consumption of water as well as the generation of wastewater and solid waste were estimated using the applicable modules in CalEEMod and the volume estimates provided by the Project Sponsor. The consumption estimates can be viewed in the output reports of CalEEMod provided in Appendix 3.2. GHG emissions associated with the onsite consumption of electricity were assumed to be zero with implementation of Menlo Park Municipal Code Section 16.44.130(2)(A), whereas GHG emissions associated with natural gas use was estimated using CalEEMod. All GHG calculations and modeling data, including data entered into CalEEMod and associated output files, are provided in Appendix 3.2.

Emissions from the existing land use were also calculated using CalEEMod and default assumptions from the model. The net change in operational emissions resulting from the Proposed Project is calculated by subtracting the existing land use emissions from the Proposed Project emissions. Anticipated trip reductions from the required TDM program were also considered.

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[42] South Coast Air Quality Management District. 2022. *CalEEMod, Version 4.0*. Available: http://www.aqmd.gov/caleemod/. Accessed: July 14, 2022.

[43] California Air Resources Board. 2022b. *California Emission FACtor Model*. Available: https://arb.ca.gov/emfac/. Accessed: July 14, 2022.

[44] Ibid.

[45] Hexagon Transportation Consultants, Inc. 2022. Email from Ling Jin to Leo Mena on February 18, 2022.

Thresholds of Significance

CEQA Guidelines Section 15064 and relevant portions of Appendix G of the CEQA Guidelines recommend that a lead agency consider a project's consistency with relevant adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. In Appendix G of the CEQA Guidelines, two questions are provided to help assess whether a project would result in a significant impact related to climate change.

- Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs?

CEQA Guidelines Section 15064.4(b) also states that, when assessing the significance of impacts from GHG emissions, a lead agency should consider 1) the extent to which a project may increase or reduce GHG emissions compared with existing conditions, 2) whether a project's GHG emissions would exceed a threshold of significance that the lead agency has determined to be applicable to the project, and 3) the extent to which a project would comply with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Construction-generated Emissions of Greenhouse Gases

BAAQMD's CEQA Air Quality Guidelines and the BAAQMD Justification Report do not identify a GHG emission threshold for construction-related emissions. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and that a determination regarding the significance of the GHG emissions be made with respect to whether a project would be consistent with emission reduction goals. BAAQMD further recommends incorporation of best management practices (BMPs) to reduce GHG emissions during construction, as feasible and applicable. This approach is used to evaluate construction-generated emissions.

Operational Emissions of Greenhouse Gases

According to the BAAQMD Justification Report, BAAQMD recommends that land use projects use the approach endorsed by the California Supreme Court in *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) (62 Cal.4th 204), which specifies that a project evaluate its effect on California's efforts to meet the state's long-term climate goals. As the California Supreme Court held in that case, a project that would be consistent with meeting the state's long-term climate goals can be found to have a less-than-significant impact on climate change. Specifically, if a project would contribute its "fair share"[46] to achieve the long-term climate goals, then the lead agency can find that the impact will not be significant because the project will help to solve the problem of global climate change (62 Cal.4th

[46] The BAAQMD defines "fair share" as the design elements that need to be incorporated into a project to lay the foundation for achieving carbon neutrality by 2045. These design elements are elements that the project has influence or control over. For example, becoming carbon neutral by 2045 will require California's electrical power generators to shift to 100 percent carbon-free energy resources, which is not something that can be controlled through the design of new land use projects and would not be a part of a project's fair share. Other sources that would not be part of the "fair share" is vehicle fleet mix or indirect offsite emissions (e.g., methane emissions from wastewater or solid waste).

220–223).[47] Applying this approach, BAAQMD has found that a new land use development project being built today would need to incorporate the following design elements to do its "fair share" toward meeting the 2030 target (as well as the goal of carbon neutrality by 2045), as shown in Table 3.3-3.

Table 3.3-3. BAAQMD GHG Thresholds for Land Use Projects

Thresholds for Land Use Projects (Must Include A or B)
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 CEQA Guidelines. 2. Transportation a. Achieve compliance with electric-vehicle requirements in the most recently adopted version of CALGreen Tier 2. b. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan 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 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT
B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b).

Source: Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed: July 14, 2022.

BAAQMD recommended applying its new thresholds to EIRs with a Notice of Preparation issued after the updated April 2022 thresholds. However, despite the fact that the Notice of Preparation for this EIR was issued in July 2021, the City decided to use BAAQMD's updated GHG significance thresholds to evaluate the impacts of GHG emissions for projects that either had not released a draft EIR for public review and comment or an administrative draft document that was substantially complete (regardless of the date of the applicable Notice of Preparation). This was because the updated thresholds represent the most recent and best available impact criteria.

If a project is designed and built to incorporate the design elements listed in Table 3.3-3 (Threshold Option A) or consistent with a local GHG reduction strategy under Section 15183.5 of the CEQA Guidelines (Threshold Option B), then it is presumed that the project will contribute its fair-share portion to achieving California's long-term climate goals and will not result in a cumulatively considerable contribution to global climate change. If the project does not incorporate these design elements or is not consistent with a qualifying local GHG reduction strategy, then the project could have a significant climate impact because it would hinder the state's efforts to address climate change.

[47] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans.* April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed: July 14, 2022.

As discussed above, the City's 2030 CAP does not meet the criteria under CEQA Guidelines Section 15183.5(b). As a result, Threshold Option B (Table 3.3-3) cannot be used. Thus, this analysis evaluates the Proposed Project's consistency with the design elements outlined in Threshold Option A (Table 3.3-3). As noted above under *Reach Code*, life sciences buildings, like those associated with the Proposed Project, would require City approval of an exemption to use natural gas for space heating/conditioning purposes. Thus, the natural gas prohibition in the City's reach code would not apply to the Proposed Project if an exemption were approved. However, other reach code provisions (e.g., onsite solar, non-residential kitchen stoves) as well as other requirements in the Menlo Park Municipal Code (e.g., the green building requirements from Section 16.44.130) would apply. Furthermore, although the City's 2030 CAP and reach code are not applicable in determining the significance of GHG impacts, a consistency analysis with the CAP and reach code are shown below for informational purposes.

Stationary-Source Emissions of Greenhouse Gases

The BAAQMD CEQA Air Quality Guidelines recommend a threshold for stationary sources of 10,000 $MTCO_2e$ per year. According to BAAQMD, it is projected that this threshold level would cover approximately 95 percent of all GHG emissions associated with new permit applications for stationary sources in the SFBAAB; in other words, 95 percent of emissions from new permit applications in the Bay Area are greater than 10,000 $MTCO_2e$. The recently adopted BAAQMD Justification Report does not include an updated stationary-source threshold; therefore, the threshold of 10,000 $MTCO_2e$ per year from the BAAQMD CEQA Air Quality Guidelines is used to evaluate emissions from stationary sources. Although the threshold was not updated in the recent BAAQMD Justification Report, it is in the contemporaneous CEQA Guidelines from 2017 and therefore is still considered applicable.

Summary of Analysis in the ConnectMenlo Final EIR

The City adopted the ConnectMenlo Final EIR in 2016. The EIR included an emissions inventory for ConnectMenlo scenarios in 2020 and 2040. Emissions were estimated for 2020 to determine consistency with AB 32, which established a statewide target for 2020. Emissions were also estimated for 2040, which is the planning horizon year for ConnectMenlo. The ConnectMenlo Final EIR found that GHG emissions would increase substantially compared with existing conditions (pre-2020 target) by the horizon year (2040) and would not achieve the 2040 efficiency target (per service population), which is based on a trajectory that leads to the 2050 goal of 80 percent below 1990 levels. The policies identified in the Menlo Park General Plan, as well as the Transportation Demand Management (TDM) program and other green building sustainability measures in the Menlo Park Zoning Ordinance, would reduce GHG emissions to the extent feasible. However, additional state and federal actions will be necessary to ensure that regulated state and federal sources (i.e., sources outside the City's jurisdictional) take measures to ensure the deep reductions needed to achieve the 2050 target. Therefore, the ConnectMenlo Final EIR considered GHG emissions to be significant and unavoidable.

The ConnectMenlo Final EIR also evaluated ConnectMenlo's consistency with the state's GHG emissions reductions objectives, which, at the time, were embodied in AB 32, Executive Order B-30-15, Executive Order S-03-05, and SB 375. The ConnectMenlo Final EIR determined that the applicable plans adopted for the purpose of reducing GHG emissions include the 2017 Scoping Plan, the first Plan Bay Area document from 2013, and the City's 2030 CAP. The ConnectMenlo Final EIR found that ConnectMenlo would be consistent with the regional objectives of Plan Bay Area (2013) and the City's CAP, but it could not be shown to be consistent with CARB's most recent scoping plan for

reducing statewide GHG emissions and/or the statewide GHG reduction target established by SB 32, which was signed in September 2016. However, the ConnectMenlo Final EIR pointed out that CARB had not yet drafted a plan to achieve the statewide GHG emissions targets stated in Executive Order S-03-05; therefore, although ConnectMenlo supports progress toward the long term-goals identified in Executive Order B-30-15 and Executive Order S-03-05, it cannot yet be demonstrated that Menlo Park would achieve GHG emissions reductions that would be consistent with a 40 percent reduction below 1990 levels by 2030 or be on the path to achieving further GHG reductions beyond 2030. Therefore, the ConnectMenlo Final EIR determined that the level of GHG emissions associated with implementation of ConnectMenlo would be significant and unavoidable.

Project Impacts and Mitigation Measures

Impact GHG-1: Generation of GHG Emissions during Construction. Construction of the Proposed Project would generate GHG emissions but would not have a significant impact on the environment. (LTS/M)

Project-related construction activities, including parking lot demolition, building construction, and other offsite improvements, would generate GHG emissions. These activities would require mobile and stationary construction equipment as well as on-road vehicles such as haul trucks for demolition debris removal and soil import and export and vendors' trucks for deliveries. Site grading and excavation would be required for building foundations, utility infrastructure installation, and landscaping. Specifically, heavy-duty off-road equipment operation, material transport, and workers' commutes during construction of the Proposed Project would result in GHG emissions from exhaust. Demolition and construction activities for the Proposed Project would result in the temporary generation of GHG emissions. Construction-related GHG emissions from each specific source would vary substantially, depending on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel. Based on modeling conducted with CalEEMod, it is estimated that Project-related construction would generate approximately 1,334 $MTCO_2e$ over the construction period (see Appendix 3.2 for detailed input parameters and modeling results).

As described above, BAAQMD has not established a quantitative threshold for assessing construction-related GHG emissions. As noted in the current BAAQMD CEQA Air Quality Guidelines, BAAQMD recommends evaluating whether construction activities would conflict with statewide emission reduction goals, based on whether feasible BMPs for reducing GHG emissions would be implemented. If a project fails to implement feasible BMPs identified by BAAQMD, its GHG emissions could conflict with statewide emission goals and represent a cumulatively considerable contribution to climate change, which would be a significant impact.

MITIGATION MEASURES. Mitigation Measure GHG-1.1 requires implementation of applicable construction-related measures from the 2017 Scoping Plan (Appendix B)[48] to reduce the level of GHGs associated with construction of the Proposed Project and avoid conflicts with statewide GHG reduction goals. Mitigation Measure GHG-1.1 requires implementation of the construction-related GHG reduction

[48] A newer version of the scoping plan has subsequently been adopted since the BAAQMD's recommendation to include the construction best management practices from their CEQA Guidelines. The 2022 Scoping Plan does not change these construction measures. In addition, these construction measures are found in the BAAQMD's current CEQA Air Quality Guidelines. As such, Proposed Project consistency with the BMPs from the 2017 Scoping Plan is evaluated in this analysis.

measures recommended in BAAQMD's CEQA guidance and CARB's 2017 Scoping Plan. Construction of the Proposed Project would not generate GHG emissions that could have a significant impact on the environment. In addition, ConnectMenlo Mitigation Measure AQ-2b1, which is intended primarily to reduce fugitive dust emissions, would result in some GHG emissions reductions through reduced equipment idling time. This impact would be ***less than significant with mitigation***.

GHG-1.1 *Implement BAAQMD-recommended Construction Best Management Practices.* The Project Sponsor shall require its contractors, as a condition of Project approval by the City, to implement measures to minimize the level of GHG emissions associated with Project construction. These shall include, but shall not be limited to, the measures listed below, which are recommended in Appendix B of the 2017 Scoping Plan. [49]

- Instead of using fossil fuel–powered generators for temporary jobsite power or grid-sourced electricity from PG&E or Peninsula Clean Energy, solar power shall be used to power tools (e.g., drills, saws, nail guns, welders) as well as any temporary offices used by construction contractors. This measure shall be required during all construction phases, except site grubbing, site grading, and the installation of electric, water, and wastewater infrastructure. This measure shall be implemented during building demolition, the framing and erection of new buildings, all interior work, and the application of architectural coatings. Electrical outlets shall be designed according to PG&E's Greenbook standards and placed in accessible locations throughout the construction site. The Project Sponsor, or its primary construction contractor, shall coordinate with a utility to activate a temporary service account prior to proceeding with construction, rely on the property's existing power, or show proof that only solar-powered generators will be used. Implementation of this measure shall be required in the contract the Project Sponsor establishes with its construction contractors.
- Use local building materials for at least 10 percent of all building materials used[50] (i.e., sourced from within 100 miles of the planning area) if feasible and possible; and
- Recycle at least 50 percent of construction waste and demolition material.

The Project Sponsor shall submit evidence of compliance to the City prior to issuance of each construction permit and every year thereafter during Project construction.

Impact GHG-2: Generation of GHG Emissions during Operation and Conflicts with Applicable Plans and Policies. The level of GHG emissions associated with operation of the Proposed Project would have a significant impact on the environment and would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. (SU)

As noted above, BAAQMD recommends qualitative approach options for analyzing project consistency with the state's long-term GHG reductions goals, which include the incorporation of certain design elements or consistency with a local GHG reduction plan. Because the City's CAP is not a qualified GHG reduction plan, this analysis evaluates the Proposed Project's design elements and consistency with BAAQMD Threshold Option A from Table 3.3-3. A discussion of the Proposed Project's consistency with the City's CAP is also included for informational purposes.

[49] Ibid.

[50] The 10 percent threshold is based on the total weight of the building material.

Operational GHG Emissions

Operation of Proposed Project would result in mobile-source GHG emissions associated with vehicle trips to and from the Project site (i.e., Project-generated VMT), landscape maintenance, periodic testing and operation of backup diesel generators, offsite electricity consumption associated with supplying water as well as conveying and treating wastewater, and the generation of solid waste. All electricity for the Proposed Project would most likely come from renewable energy sources, either Peninsula Clean Energy or onsite renewable generation. As a result, electricity for the Proposed Project is not expected to result in the use of fossil fuels. In contrast, natural gas would be used onsite for energy purposes if the City approves the reach code exemption for life science space heating. Although the use of gas would be offset through compliance with the municipal code, offsetting the use of gas through credits or additional renewable energy generation onsite or offsite would not prevent the use of fossil fuel, as well as the generation of corresponding emissions, at the Project site.

Although the level of operational emissions from the Proposed Project is not used directly to evaluate GHG impacts, annual emissions associated with operation of the Proposed Project are summarized in Table 3.3-4 for informational purposes. The results shown in Table 3.3-4 represent the first year of Project operations (2023), which is when the highest level of annual emissions would be expected. Table 3.3-4 also presents emissions from existing uses at the site and the net change in emissions resulting from implementation of the Proposed Project. All detailed calculations are provided in Appendix 3.2.

Table 3.3-4. Operational Greenhouse Emissions by Sector for 2023 ($MTCO_2e$)

Emissions Source	Proposed Project Emissions	Existing Use Emissions	Net Change
Area sources	< 1	< 1	< 1
Energy sources[a]	1,175	40	1,135
Mobile sources	1,128	346	782
Waste sources	61	9	52
Water sources	67	22	45
Total Operational Emissions **(non-stationary sources)[b]**	**2,432**	**418**	**2,014**
Stationary sources	7	—	7

Source: See Appendix 3.2 for detailed input parameters and modeling results.

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

a. The level of GHG emissions associated with onsite consumption of electricity would be zero because of adherence to the Menlo Park Municipal Code (Section 16.44.130[2][A]), which requires the Project Sponsor to meet 100 percent of energy demand through various measures, such as onsite generation or the purchase of renewable energy. As noted above, electricity consumption at the Project site is not likely to require fossil fuels because energy must be from renewable sources. In contrast, the use of natural gas would result in direct emissions into the atmosphere; thus, the emissions from energy sources in this table are from only natural gas used at the Project site. Renewable energy credits would be needed to offset natural gas energy use, per the municipal code. However, emissions from fossil-fuel sources would be emitted directly into the atmosphere; thus, they are shown in this table for informational purposes.

b. Values may not add exactly because of rounding.

As shown in Table 3.3-4, operation of the Proposed Project would generate approximately 2,432 $MTCO_2e$ during its first year of operation, which would result in a net increase amounting to approximately 2,104 $MTCO_2e$. Almost half of the Proposed Project's operational emissions would be associated with vehicle trips to and from the Project site (1,128 $MTCO_2e$ in gross emissions and a net increase amounting to 782 $MTCO_2e$). Mobile-source emissions are expected to become progressively lower emitting in future years from fleet turnover and increasing stringency with respect to regulations, although these changes are generally outside of the City's control. The use of natural gas would be the largest source of GHG emissions from operation of the Proposed Project, as shown in the Energy Sources in Table 3.3-4, although the Project Sponsor would be required to purchase carbon offsets for its natural gas use. As discussed above, the BAAQMD does not have a quantitative GHG threshold for land use projects that can be used to analyze a project's consistency with the state's long-term GHG reduction goals.

BAAQMD also recommends that the GHG emissions from permitted stationary sources be calculated separately from a project's operational emissions.[51] The Proposed Project's emergency diesel generator (i.e., a stationary source as shown in Table 3.3-4) is estimated to emit approximately 7 $MTCO_2e$/year, based on a 15-minute test run each week, which is below the 10,000 $MTCO_2e$/year BAAQMD threshold. Thus, operation of the emergency generator would result in a less-than-significant impact.

Overall, the Proposed Project would result in more emissions than the existing use but would result in a more emissions-efficient land use once construction is complete. The Proposed Project would replace an older building with a new building that would meet LEED Gold certification requirements, would use renewable energy sources for all electricity demand, would add EV spaces, and would implement a TDM plan. Therefore, although there would be an emissions increase, as shown in Table 3.3-4, the Proposed Project would operate more efficiently for the reasons described above.

Regarding the adopted BAAQMD GHG thresholds for land use projects, the Proposed Project's consistency with the design elements specified in Threshold Option A is discussed below.

Statewide Greenhouse Gas Reduction Targets and Plans

AB 32, SB 32, and AB 1279 outline the state's GHG emissions reduction targets for 2020, 2030, and 2045, respectively. Most recently, AB 1279 sets an ambitious state goal of net-zero GHG emissions by 2045,[52] while acknowledging the important role of carbon sequestration to meet this target.

Consistency with the BAAQMD Land Use GHG Thresholds

As discussed above, the newly adopted BAAQMD land use GHG thresholds are established to ensure that projects meet their "fair share" and help the state meet its long-term climate goals (SB 32 and Executive Order B-55-18[53]). BAAQMD has identified design elements and metrics that, if achieved by a project, represent a fair share as to contributing to long-term state goals. These design elements and metrics include not incorporating natural gas infrastructure in project design, not wasting electricity, promoting EV use and charging consistent with CALGreen Tier 2 requirements, and, lastly, reducing VMT in accordance with the state's 2017 Scoping Plan. The Proposed Project's consistency with these requirements, which are shown as Option A in Table 3.3-3 above, is discussed in Table 3.3-5.

[51] For example, if a proposed project anticipates having a permitted stationary source onsite, such as a backup generator, the GHG emissions from the generator should not be added to the project's total emissions.

[52] As noted under Regulatory Setting, AB 1279 also includes a mandate to reduce statewide anthropogenic emissions by 85 percent from 1990 levels by 2045.

[53] Executive Order B-55-18 is the precursor executive order to AB 1279. Both of these call for carbon neutrality by 2045. The BAAQMD's land use thresholds were adopted prior to the adoption of AB 1279.

Table 3.3-5. Project Consistency with the BAAQMD GHG Land Use Thresholds (Option A)

Sector	BAAQMD Threshold Option A (refer to Table 3.3-3)	Project Consistency
Buildings	a) The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).	**Inconsistent.** The Proposed Project would include natural gas infrastructure in its design. All electrical usage would comply with the Menlo Park Municipal Code, which requires onsite renewable energy generation and the purchase of 100 percent renewable energy. The municipal code also requires the Proposed Project to offset natural gas usage annually, which could be accomplished through local renewable energy generation at the Project site, or other locations in the city, or by purchasing certified renewable energy credits or offsets. Thus, natural gas use would be offset, and there would be no net increase in emissions from the use of natural gas. However, GHGs would still be emitted at the Project site. Because the Proposed Project would include natural gas infrastructure in its design, it would not be consistent with this BAAQMD requirement, even though the use of natural gas would be offset. Thus, this is considered a conflict with BAAQMD's thresholds for land use projects. The Proposed Project's natural gas needs are further discussed below.
	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)(2) and Section 15126.2(b) of the CEQA Guidelines.	**Consistent.** The Proposed Project would be built to achieve LEED Gold certification or equivalent. As part of the design, the Proposed Project would include a photovoltaic solar system. Furthermore**,** the new building would be built under the current CALGreen code, 2019 or later, which would result in at least 30 percent less energy use than commercial buildings that were designed to meet the 2016 CALGreen code. This reduction would be achieved primarily through a transition to high-efficiency lighting. Lastly, as determined in the Initial Study (Appendix 1-1), it was found that the Proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources. As such, the Proposed Project would be consistent with this BAAQMD requirement.
Transportation	a) Achieve compliance with electric-vehicle requirements in the most recently adopted version of CALGreen Tier 2.	**Consistent.** The Proposed Project would be subject to the Menlo Park Municipal Code, Chapter 12, Sections 12.18.080 through 12.18.110, which amends CALGreen Section 5.106.5.3, Electric-Vehicle Charging. This reach code of the Menlo Park Municipal Code (i.e., the amended section of CALGreen) requires 15 percent of all parking spaces to be EV-ready spaces and 10 percent to be spaces with designated electric-vehicle supply equipment (EVSE) in new construction greater than 9,999 square feet. This City ordinance, although it exceeds the CALGreen mandatory requirements for EV spaces (10 percent), would not meet the CALGreen Tier 2 nonresidential voluntary requirement (i.e., 45 percent of all spaces to

Sector	BAAQMD Threshold Option A (refer to Table 3.3-3)	Project Consistency
		be EV capable and 33 percent of the EV spaces to have EVSE). The Proposed Project goes beyond the City ordinance to include 103 EV spaces (45 percent of the 229 total parking spaces), with 34 of them having EVSE (i.e., 33 percent of the 103 spaces). As such, the Proposed Project would be consistent with this BAAQMD requirement.
	b) Achieve a reduction in project-generated vehicle miles traveled (VMT) to a level below the regional average, consistent with the current version of the California Climate Change Scoping Plan, or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita, ii. Office projects: 15 percent below the existing VMT per employee, and iii. Retail projects: no net increase in existing VMT.	**Consistent.** The Proposed Project, which is a nonresidential project, would develop a new office building and parking lot near residential and commercial uses, thereby reducing the demand for travel by single-occupancy vehicles. In addition, the Project area is served by public transit. The Proposed Project would develop and implement a TDM program, with measures that would reduce vehicle traffic in and around the Project site. As noted in Section 3.1, *Transportation*, a TDM plan is required by Mitigation Measure TRA-2.1. More information on the TDM plan can be found in Section 3.1, *Transportation*. Also, the Proposed Project's bicycle and pedestrian facilities would help reduce the demand for travel by single-occupancy vehicles. In total, through its design and TDM plan, the Proposed Project would achieve a reduction in VMT of 34 percent, which is more than the 27.3 percent reduction in VMT needed, as described under Impact TRA-2 in Section 3.1, *Transportation*.[54] This reduction would achieve the BAAQMD threshold VMT reduction (i.e., 15 percent below existing VMT per employee). The Proposed Project would be consistent with this BAAQMD requirement.

Source: Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed: July 14, 2022.

With respect to EV charging spaces, the Proposed Project would be consistent with the City's reach code by providing at least 15 percent of parking stalls for EVs. However, the City's reach code does not meet the requirements of the BAAQMD threshold for EV spaces (as noted below in Table 3.3-5). The CALGreen Tier 2 nonresidential voluntary requirements for EV parking spaces calls for higher percentages for EV parking. Consequently, the Project Sponsor has increased the number of EV parking spaces beyond the reach code requirements to meet this higher standard. This impact would be ***less than significant***. As demonstrated in Table 3.3-5, the Proposed Project would not be consistent with BAAQMD's thresholds for land use projects

[54] As noted in Section 3.1, the VMT reduction is based on City VMT guidelines from July 2020 (updated in January 2022). The guidelines present a threshold for an office-type project, using existing regional employee VMT per capita minus 15 percent. To get VMT per capita to 15 percent below existing regional VMT, the Proposed Project would need to reduce its VMT by 27.3 percent. Refer to Table 3.1-5 in Section 3.1 for more information.

because it would be constructed with natural gas infrastructure. For other elements of the BAAQMD thresholds, the Proposed Project would adhere to requirements with respect to energy usage, EV parking, and VMT reductions. Although the Proposed Project would use natural gas, that gas consumption would be offset through the Proposed Project's required adherence to the Menlo Park Municipal Code. Natural gas usage would be offset through onsite means, such as the installation of renewable energy infrastructure at the site; offsite means, such as the installation of renewable energy infrastructure at other locations in the city; or the purchase of certified renewable energy credits or offsets. The Proposed Project could result in no-net increase in GHG emissions from the use of natural gas with offsets; however, the BAAQMD threshold specifically points to the actual installation of natural gas appliances or plumbing as the determinant for significance. The construction of natural gas infrastructure would lock in fossil fuel infrastructure for the life of the Proposed Project. According to BAAQMD, constructing new buildings with natural gas infrastructure would conflict with the carbon neutrality goal for 2045.[55] Therefore, the use of natural gas by and installation of natural gas infrastructure for the Proposed Project would generate a significant amount of GHG emissions during operations and conflict with the state's plans to reduce GHG emissions.

Menlo Park Municipal Code Chapter 12.16, Reach Code, requires electricity to be the only fuel source for new buildings and not natural gas; however, the reach code ordinance provides an exception for projects with a scientific laboratory building. It states that projects may use natural gas for space heating with third-party verification that the all-electric space heating requirement would not be cost effective and feasible. With evidence of infeasibility, the Proposed Project would not be required to comply with this component of the reach code.

The Project Sponsor submitted a feasibility analysis for a natural gas design, which was prepared by Western Allied Mechanical, a mechanical engineering firm, and is included in Appendix 3.3. The feasibility analysis concluded that laboratory spaces like the Proposed Project require precise space conditioning, because the absence of such precision could result in failures of the science experimentation and/or production conducted by future occupants. The only option for all-electric heating that can achieve the necessary space conditioning precision, according to the feasibility analysis, is an air source heat pump, but this equipment has several feasibility issues when used in a laboratory space. These feasibility issues include the system reliability and geographic constraints and are discussed in more detail in the feasibility analysis. Consequently, the all-electric design was determined to be infeasible for the Proposed Project. It should be noted that the Project's mechanical system would be designed to convert to an all-electric system if it becomes feasible in the future.

Components of the Menlo Park Municipal Code applicable to the Proposed Project would reduce operational GHG emissions. As noted above, the requirements of Menlo Park Municipal Code Section 16.44.130(2)(A) involve onsite energy generation, renewable electricity purchases equal to 100 percent of annual energy demand, local renewable energy generation within Menlo Park equal to the annual energy demand of the Project, and purchases of certified renewable energy credits and/or certified renewable energy offsets equal to the annual energy demand of the Project, inclusive of electricity and natural gas. The Project Sponsor, or its building manager, would be required to meet 100 percent of energy demand (electricity and natural gas) through a combination of the measures listed above.

[55] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed: July 14, 2022.

Menlo Park Municipal Code Section 16.44.130(2)(A) requires the Proposed Project to offset the use of natural gas with the methods outlined above. For example, the Project Sponsor could install renewable energy infrastructure at the site, such as additional solar panels. Additionally, the Project Sponsor could sponsor onsite renewable energy generation at a school or other site in the city in an amount equal to the energy consumed by natural gas usage at the Project site. Each year, the emissions generated by natural gas usage at the Project site would be offset by the emissions reduced by renewable energy consumed at the Project site and/or at a hypothetical school site. Thus, compliance with this section of the municipal code would result in the Proposed Project causing no net increase in the use of fossil fuel–derived energy sources. However, as discussed above, even with adherence to the Menlo Park Municipal Code, the impact would be ***significant and unavoidable*** because BAAQMD's Justification Report states that projects must not include natural gas appliances or plumbing. Although the Project Sponsor would be required to offset natural gas usage, BAAQMD considers the presence of natural gas appliances and/or plumbing to be a significant impact because such infrastructure would be locked in for many years in the future. Although energy-related emissions would be offset through compliance with the municipal code, there is no feasible mitigation to reduce emissions. Furthermore, as noted in Section 5.4, *Alternatives Considered but Rejected*, a no-natural-gas alternative was determined to be infeasible; therefore, there are no alternatives that would eliminate natural gas usage.

Consistency with the City of Menlo Park Climate Action Plan

The most recent update to the City's CAP, the 2030 CAP, was adopted in April 2021.[56] The 2030 CAP updated emissions inventories and adopted a climate goal that calls for zero carbon by 2030. The CAP also aims for a 90 percent reduction in CO_2e emissions from 2005 levels by 2030. To achieve GHG reductions, the CAP promotes six different goals. Table 3.3-6 discusses the Project's consistency with the six 2030 CAP goals. As discussed in Table 3.3-6, the Proposed Project would be consistent with the goals of the 2030 CAP that are applicable to the Proposed Project.

Consistency with the Menlo Park Municipal Code

As discussed above, the Proposed Project would be consistent with the Menlo Park Municipal Code. Specifically, the Proposed Project would adhere to Menlo Park Municipal Code Chapter 16, Section 16.44.130(2)(A), which requires the generation or purchase of renewable energy. The Proposed Project would also offset natural gas usage at the Project site. In addition, the Proposed Project would exceed the requirements of Menlo Park Municipal Code Chapter 12, Sections 12.18.080 through 12.18.110, which is the reach code that amends CALGreen. This reach code requires 15 percent of the parking spaces to be EV spaces and 10 percent to be designated EVSE. In addition, as noted above under Regulatory Setting, the Proposed Project would be required to comply with Chapter 12, Section 12.16.110, which is the reach code that amends the California Energy Code. Specifically, the Proposed Project, with a non-residential building with an area greater than 10,000 square feet, would be required to install a 5-kilowatt photovoltaic system. The required photovoltaic system would be included in the design for the Proposed Project. Similarly, adherence to all other requirements would be documented during the building permit process, and a permit would not be granted without adherence to the requirements. These include requirements pertaining to water use efficiency and recycled water (e.g., dual plumbing for internal use of recycled water). Therefore, the Proposed Project would be consistent with City General Plan goals and applicable municipal codes. As noted above, buildings with laboratory uses are exempt from the reach code pertaining to natural gas use in buildings.

[56] Ibid.

Table 3.3-6. Consistency with the City of Menlo Park 2030 Climate Action Plan

2030 Climate Action Plan Goals	Project Consistency
1. Explore policy/program options to convert 95 percent of existing buildings to all-electric buildings by 2030.	**Not Applicable.** This goal applies to existing buildings, not new construction. Although not directly applicable, the Proposed Project would prioritize energy derived from renewable sources. The Proposed Project would be consistent with Menlo Park Municipal Code Chapter 16, Section 16.44.130(2)(A), which requires 100 percent of all electricity to be from a renewable source. Furthermore, the Proposed Project would adhere to Menlo Park Municipal Code Chapter 16, Section 16.44.130(2), which requires the Project Sponsor to purchase renewable energy credits in an amount equal to the amount of natural gas used onsite (e.g., for space heating, water heating, equipment sterilization, cooking).
2. Set citywide goals for increasing electric-vehicle sales to 100 percent of new vehicle sales by 2025 and decreasing gasoline sales 10 percent a year from a 2018 baseline.	**Consistent.** The Proposed Project would go beyond the requirements of Menlo Park Municipal Code Chapter 12, Sections 12.18.080 through 12.18.110, which amends CALGreen Chapter 5, Section 5.106.5.3, Electric-Vehicle Charging, and requires 15 percent of all parking spaces to be EV spaces and 10 percent to be designated EVSE. The buildout of electric-vehicle infrastructure encourages and makes it easier for consumers to replace their internal combustion engine vehicles with electric-vehicles.
3. Expand access to electric-vehicle charging for multi-family and commercial properties.	**Consistent**. As discussed in Goal 2, from the CAP, more than 20 percent of the Proposed Project's parking spots would be EV spaces.
4. Reduce vehicle miles traveled by 25 percent or an amount recommended by the Complete Streets Commission	**Consistent.** As discussed in more detail in Section 3.1, *Transportation*, the Proposed Project would incorporate TDM measures as required by Mitigation Measure TRA-2.1 to reduce the number of trips as well as VMT. The TDM measures would reduce VMT by 34 percent, which is greater than the 25 percent target from this CAP goal and consistent with the 27.3 percent performance standard from Mitigation Measure TRA-2.1.
5. Eliminate the use of fossil fuels from municipal operations.	**Not Applicable.** The Proposed Project has no control over municipal operations and therefore would not conflict with this measure.
6. Develop a climate adaption plan to protect the community from sea-level rise and flooding.	**Not Applicable.** The Proposed Project would not conflict with the City's goal to develop a climate adaption plan.

Source: City of Menlo Park. 2022. *2030 Climate Action Plan*. Available: https://menlopark.gov/files/sharedassets/public/city-managers-office/documents/sustainability/2030-climate-action-plan-amended-2021.pdf . Accessed: July 14, 2022.

MITIGATION MEASURES. Implementation of Mitigation Measure TRA-2.1, which is presented in Section 3.1, *Transportation*, would ensure that operation of the Proposed Project would achieve a VMT reduction consistent with both the City and BAAQMD thresholds. As such, with respect to the City municipal code and BAAQMD VMT threshold, this impact would be ***less than significant with mitigation.***

Conclusion for Proposed Project Operations

In summary, the Proposed Project would not be consistent with the BAAQMD GHG thresholds for land use projects because of the installation of natural gas infrastructure. Although the Proposed Project would use natural gas, that gas consumption would be offset through the Project's required adherence to the Menlo Park Municipal Code, and there would be no net increase in GHG emissions from the use of natural gas. However, the BAAQMD threshold specifically targets the installation of natural gas appliances or plumbing. By perpetuating the use of fossil fuel infrastructure for the life of the Proposed Project, the Proposed Project would conflict with the statewide carbon neutrality goal for 2045. Furthermore, the BAAQMD report states that there is no practical way to eliminate the GHG emissions generated from burning natural gas and that the state needs to stop providing natural gas infrastructure in new buildings if it is going to achieve full electrification by the 2045 target date.[57] Therefore, this impact would be a ***significant and unavoidable***.

Cumulative Impacts

Impact C-GHG-1: Cumulative GHG Impacts. The Proposed Project would generate GHG emissions that would have a significant cumulative impact on the environment. (SU)

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. Although GHG emissions during construction would not result in a significant impact, the level of GHG emissions associated with operation of the Proposed Project would have a significant impact on the environment and would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The impact would be ***significant and unavoidable.***

As noted above, the Proposed Project's use of natural gas would not be consistent with the BAAQMD's land use thresholds, as shown in Table 3.3-5. This would be a cumulatively considerable impact. Because GHG impacts are inherently cumulative, this impact does not represent a separate impact from the significant impact disclosed in Impact GHG-2.

[57] Bay Area Air Quality Management District. 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed: July 14, 2022.

Greenhouse Gas Analysis of Waterline Upgrades

As noted in Chapter 2, *Project Description*, and the 1350 Adams Court EIR,[58] the existing 10-inch water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may develop before the 1350 Adams Court project; therefore, the CEQA analysis of water main construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

As presented in Appendix 3.2, the air quality analysis modeling files for the 1350 Adams Court EIR, the construction GHG emissions from only the waterline construction activities would be 94 $MTCO_2e$. As noted above, the GHG emissions from the Proposed Project would be 1,334 $MTCO_2e$ over the construction period, and, with the addition of the waterline construction emissions, the total would increase to 1,428 $MTCO_2e$. This amount of emissions, which includes the waterline construction, would not result in a different conclusion from that noted above because the Proposed Project would implement Mitigation Measure GHG-1.1, Implement BAAQMD-recommended Construction Best Management Practices. The EIR for the 1350 Adams Court project concluded that that project would not have a significant impact on GHG emissions with implementation of the identified mitigation measure from the 1350 Adams Court Project Mitigation Monitoring Program: Mitigation Measure GHG1.1. Therefore, the EIR for the 1350 Adams Court project determined that the impact of the waterline upgrades would be ***less than significant with mitigation.*** The same mitigation measures will be included in the Proposed Project to the extent applicable if the Project Sponsor becomes responsible for waterline construction.

[58] City of Menlo Park. 2022. 1350 Adams Court EIR, Section 3.3 Greenhouse Gas. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

3.4 Noise

This section describes existing noise conditions in the Project area, sets forth criteria for determining the significance of noise impacts, and estimates the noise impacts that would result from construction and operation of the Proposed Project.

As discussed in Section XIII, *Noise*, of the Initial Study prepared for the Proposed Project (Appendix 1-1), the Proposed Project would not expose people residing or working in the Project area to excessive noise levels from aircraft activity. Therefore, potential impacts related to the proximity of public and private airports are not addressed further in this section. Please refer to Appendix 1-1 for the full Initial Study.

No comments on the Notice of Preparation (Appendix 1-2) pertained to noise were provided.

Overview of Noise and Sound

A brief description of the noise and vibration concepts and terminology used in this assessment is provided below. Some of these are technical terms used in measuring sound and its effects, which are not easily explained in layman's terms.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water and capable of being detected by a receiving mechanism, such as the human ear or a microphone. Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable. Commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals. Although the decibel scale is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing.
- **A-weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used scale for environmental noise assessments. Table 3.4-1 summarizes typical A-weighted sound levels for different noise sources.
- **Maximum Sound Levels (L_{max}).** The maximum sound level measured during the measurement period.
- **Minimum Sound Level (L_{min}).** The minimum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq})**. The equivalent steady-state sound level that, in a stated period of time, contains the same acoustical energy. The 1-hour A-weighted equivalent sound level (L_{eq} 1h) is the energy average of A-weighted sound levels occurring over a 1-hour period.

- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and, for all intents and purposes, interchangeable.
- **Vibration Velocity Level (or Vibration Decibel Level, VdB).** The root-mean-square velocity amplitude for measured ground motion, expressed in decibels.
- **Peak Particle Velocity (PPV).** A measurement of ground vibration, defined as the maximum speed at which a particle in the ground is moving and expressed in inches per second (in/sec).
- **Sensitive Receptor.** Noise- and/or vibration-sensitive receptors, including land uses where quiet environments are necessary for enjoyment as well as public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Table 3.4-1. Typical A-weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: November 17, 2021.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, this means that the volume of traffic on a roadway would typically need to double to result in a noticeable increase in noise.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates, or spreads, over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers, such as buildings and topography, that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Overview of Ground-borne Vibration

Vibration is an oscillatory motion, meaning a motion with a repetitive rhythm, through a solid medium. Vibration can be quantified in terms of velocity or acceleration. Variations in geology and distance result in different vibration levels. In all cases, vibration amplitudes decrease with increased distance. The amplitude of a seismic or sound wave is the maximum displacement, or distance, between the peak and the valley of the wave.

The operation of heavy construction equipment, particularly pile-driving equipment and other impact devices (e.g., pavement breakers), if used during construction, creates seismic waves that radiate along the surface and downward into the ground. Surface waves can be felt as ground vibration. Vibration from the operation of construction equipment can result in effects that range from annoyance for people to damage for structures. However, according to the Federal Transit Administration (FTA), "ground-borne vibration is almost never a problem outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction."[1]

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move (in inches per second) is the commonly accepted descriptor of vibration amplitude, referred to as peak particle velocity (PPV). Table 3.4-2 summarizes typical vibration levels generated by construction equipment at a reference distance of 25 feet as well as other distances.

[1] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment.* FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: July 15, 2022.

Table 3.4-2. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0396
Hoe ram	0.089	0.0315	0.0171	0.0111	0.0048
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Loaded truck	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment.* FTA-VA-90-1003-06. Office of Planning and Environment. May. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf. Accessed: August 22, 2021.

Existing Conditions

Environmental Setting

Principal Noise Sources in the Project Area

The ambient noise environment in Menlo Park is affected by a variety of sources, including mobile-source noise (e.g., vehicle traffic, train noise, aircraft noise) and stationary-source noise. The section that follows describes the existing noise environment and identifies the primary noise sources in the vicinity of the Project site.

Existing Traffic Noise. Motor vehicles, with their distinctive noise characteristics, are a major source of noise in Menlo Park. The level of noise varies according to factors such as the volume of traffic, vehicle mix (i.e., percentage of cars and trucks), average traffic speed, and distance from the observer. Menlo Park is exposed to noise generated by traffic on US 101, Interstate 280, State Route (SR) 84, El Camino Real, Middlefield Road, Willow Road, Ravenswood Avenue, Santa Cruz Avenue, and Sand Hill Road. Traffic is the main source of noise in the Project area. The majority of the existing noise sources in the area are associated with local traffic on adjacent roadways. Significant roadways in the vicinity of the Project site include US 101 (0.5 mile to the southwest), SR 84 (0.4 mile to the north), and Willow Road (0.2 mile to the west). Noise levels of up to 60 dBA L_{dn}/CNEL are considered normally acceptable for single-family residential land uses, according to the land use compatibility noise guidelines included in the City of Menlo Park (City) General Plan Noise Element.

According to Figure 4.10-2 of the ConnectMenlo Environmental Impact Report (EIR), the Project site is within a noise contour of 60 dBA L_{dn}, or CNEL, or greater associated with US 101. However, the Project does not propose any residential land uses. Noise levels of up to 70 dBA L_{dn} are considered normally acceptable for office-type land uses; the Project site is not within any 70 dBA L_{dn} noise contours.

Existing Train Noise. Two rail lines traverse Menlo Park, the Dumbarton Rail Corridor and the Caltrain rail line. Although the Dumbarton Rail Corridor is within 0.3 mile of the Project site, it is currently not used and therefore not an active noise source. Although the Caltrain rail line is active, the tracks are more than 2 miles from the Project site. Train noise is not expected to be significant in the Project area.

Aircraft Noise. The closest airport to the Project site is Palo Alto Airport, which is approximately 1.8 miles away. Menlo Park is approximately 6 miles northwest of Moffett Federal Airfield, 14 miles northwest of San José International Airport, 15 miles southeast of San Francisco International Airport, and 18 miles south of Oakland International Airport. In addition, San Carlos Airport is almost 6 miles northwest of the Project site. According to the ConnectMenlo EIR, although Menlo Park does receive some noise from the aircraft that use these facilities, Menlo Park, including the Project site, does not fall within the airport land use planning areas, runway protection zones, or the 55 dBA CNEL noise contours of any of the airports. According to the San José Airport Land Use Compatibility Plan, all land uses, including office, school, residential uses, etc., are considered compatible with airport noise levels in the 55 to 60 dBA CNEL range. Aircraft noise is not expected to be significant in the Project area.

Existing Stationary-Source Noise. Stationary sources of noise may occur with all types of land uses. Menlo Park is developed with mostly residential, commercial, and light industrial uses. Stationary sources at commercial and light industrial uses include heating, ventilation, and air-conditioning (HVAC) systems; loading docks; and the machinery required for manufacturing processes. Noise generated by commercial uses is generally short and intermittent. Industrial uses may generate noise continuously or intermittently, depending on the processes and types of machinery involved. The majority of Menlo Park's limited industrial operations are north of the city and separated from sensitive uses such as residences by rail lines or major roadways. Distance serves to decrease the noise perceived at a given receptor. In the vicinity of the Project site, stationary-source noise is generally limited to mechanical equipment at commercial and office buildings.

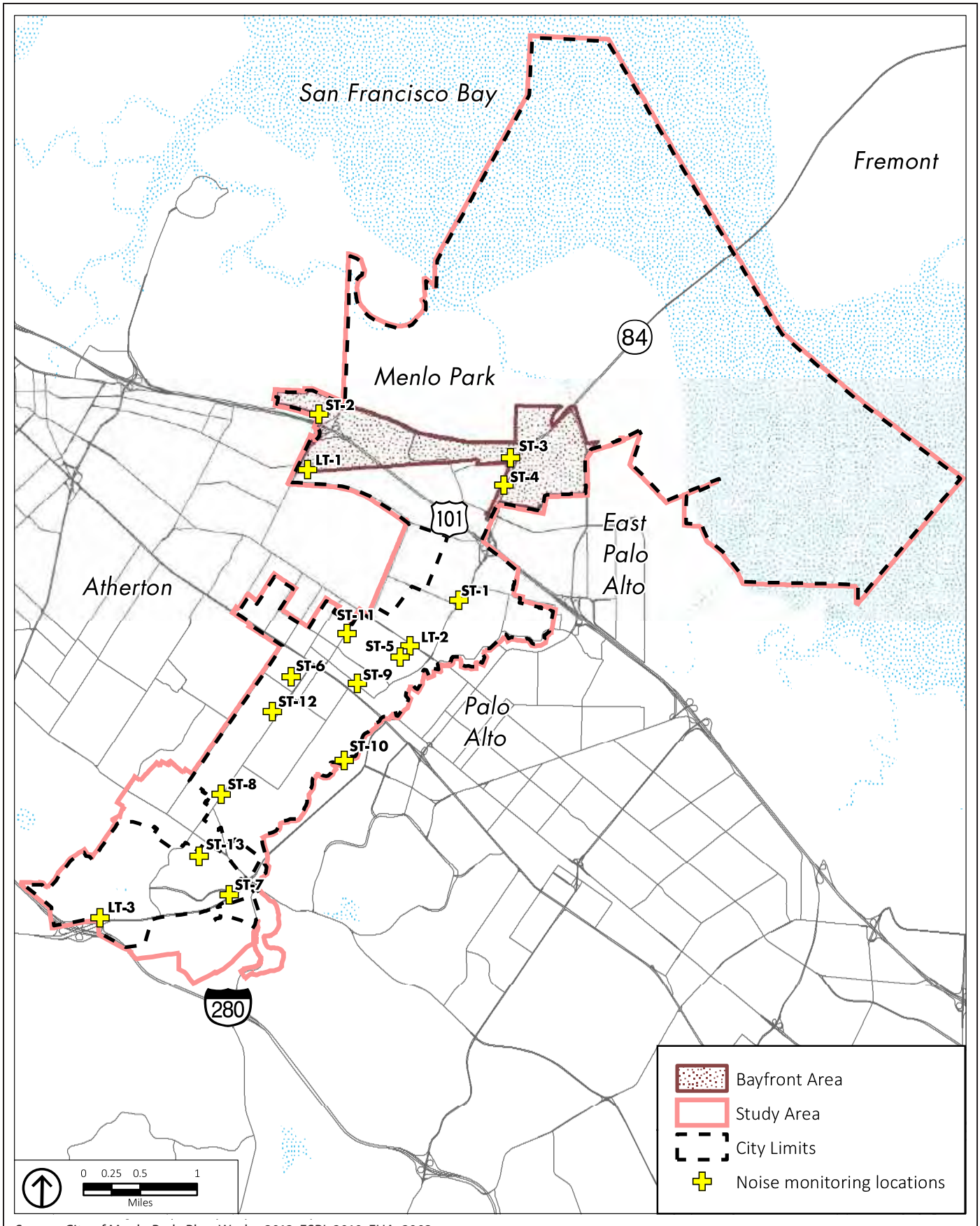
Surrounding Land Uses and Sensitive Receptors

The Project site is bounded by warehouses, light industrial uses, offices, educational facilities, research-and-development (R&D) facilities, and life science uses. Immediately north of the site is a San Francisco Public Utilities Commission right of way for its Hetch Hetchy water pipeline. Most of the right of way is undeveloped, except for road crossings and limited outdoor uses. South and west of the non-residential uses along O'Brien Drive are single-family residential neighborhoods in East Palo Alto.

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect use of the land. These sensitive uses include the residential neighborhoods approximately 300 feet south and west of the Project site as well as Ravenswood Middle School, which is approximately 400 feet east of the site. The closest sensitive land use is the Wund3rSCHOOL/Open Mind School, a small private school adjacent to the Accessory Parking Lot on Parcel 2. This facility is expected to be most affected by the Proposed Project.

ConnectMenlo Noise Monitoring (2012)

For the ConnectMenlo EIR, existing ambient noise levels were measured at 16 locations in the city to document representative noise levels at various locations. The ConnectMenlo EIR locations closest to the Project site are shown in Figure 3.4-1. Short- and long-term measurements were taken. Short-term measurements provide a "snapshot" of noise data at a given location at a given time (typically periods of 10 to 20 minutes), whereas long-term measurements provide data for a longer period of time (e.g., hourly or 24-hour periods). When considered in conjunction with nearby long-term measurements, the patterns of 24-hour noise in the vicinity of a short-term measurement can often be inferred.



Source: City of Menlo Park; PlaceWorks, 2012; ESRI, 2010; FHA, 2002.

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Figure 3.4-1
Nearby ConnectMenlo Noise Monitoring Locations

The closest short-term measurement locations were ST-3 and ST-4, each approximately 0.3 to 0.4 mile west of the Project site along Willow Road. The closest long-term measurement locations were LT-1 and LT-2, approximately 2 miles west and southwest of the Project site. Data from these measurement locations are presented in Table 3.4-3. Short- and long-term measurements were taken on December 6 and 10, 2012; long-term noise level measurements were taken for a period of 24 hours on December 10 and 11, 2012. The data are presented only for informational purposes. Newer ambient noise measurements were collected specifically for the Proposed Project (see below).

Table 3.4-3. 2012 Noise Measurement Results

Monitoring Site	L_{min}	L_{eq}	L_{max}	CNEL[a]
ST-3	50.6	56.5	60.9	—
ST-4	50.9	59.5	72.3	—
LT-1	—	—	—	67.1
LT-2	—	—	—	68.6

Source: City of Menlo Park. 2016a. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park EIR*. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo.

[a] L_{dn} and CNEL are typically within 1 dBA of each other and, for all intents and purposes, interchangeable.

Existing Noise Levels

Project-Specific Noise Measurement Survey (2021)

To quantify existing ambient noise levels in the vicinity of the Project site, long-term (24-hour) and short-term (15-minute) ambient noise measurements were conducted by ICF between Tuesday, July 27, and Wednesday, July 28, 2021[2]. Long-term measurements were conducted using Piccolo II Type 2 sound level meters; short-term measurements were conducted using a Larson Davis LxT Type 1 sound level meter. Monitoring locations were selected to capture noise levels in areas that are sensitive to noise or representative of ambient levels throughout the day and night near the Project site.

Three long-term monitoring locations near the Project site were selected for collecting long-term ambient noise data. L_{dn} noise levels from the long-term measurements ranged from 61.1 to 77.1 dBA L_{dn}, with higher noise levels generally being captured close to major roadways and lower noise levels generally being captured in areas farther from major roadways. Five short-term monitoring locations near the Project site were selected for collecting short-term ambient noise data. Measured short-term noise levels ranged from 55.9 to 67.3 dBA L_{eq}, similarly depending on the proximity of the measurement site to major roadways.

Refer to Figure 3.4-2 for a map of the noise measurement locations. Table 3.4-4 summarizes the results of the long-term noise measurements, and Table 3.4-5 summarizes the short-term measurement results. Refer to Appendix 3.4 for the complete dataset of noise measurement data from the noise field survey.

[2] Although these measurements were taken approximately 1 year into the COVID-19 pandemic and there is a possibility that volumes were slightly reduced from pre-pandemic levels, traffic noise is not particularly sensitive to (i.e. affected by) differences in traffic volumes. For instance, a doubling of traffic volumes would result in a 3 dB increase in the traffic noise level, which is considered "barely perceptible." In addition, ambient noise measurements were taken more than a year into the pandemic; it is likely that volumes were not at their pandemic lows. In addition, a lower baseline ambient noise level would provide for a conservative analysis because smaller Project-related traffic volumes would be required to trigger a significant impact. Therefore, the volumes analyzed are fairly representative of pre-pandemic conditions and help to ensure a conservative Project noise impact analysis.

Graphics ... 0008918 (03-15-2023) JC

Figure 3.4-2
Noise Measurement Locations
1125 O'Brien Drive Project

Table 3.4-4. Long-Term Noise Level Measurements in and around the Project Site

Site	Site Description	Time Period	L_{dn}	CNEL	Highest Recorded 1-hour L_{eq}[a]	Lowest Record 1-hour L_{eq}[b]	12-hour L_{eq}[c]
LT-1	1439 Kavanaugh Drive	07/27/2021–07/28/2021	67.4	67.9	66.8	53.3	64.8
LT-2	1360 Willow Road	07/27/2021–07/28/2021	77.1	77.5	75.6	64.0	74.5
LT-3	1125 Alberni Street	07/27/2021–07/28/2021	61.1	61.9	62.5	44.3	59.3

Note: See Appendix 3.4 for full noise measurement survey data.
LT = long-term (24-hour) ambient noise measurement.
All noise levels are reported in A-weighted decibels (dBA).
a. Highest L_{eq} is the highest calculated L_{eq} level during a 24-hour period.
b. Lowest L_{eq} is the lowest calculated L_{eq} level during a 24-hour period.
c. The 12-hour average L_{eq} from 7:00 a.m. to 7:00 p.m.

Table 3.4-5. Short-Term Noise Level Measurements in and around the Project Site

Site	Site Description	Measurement Start Time	L_{eq}	L_{max}	L_{min}	Dominant Noise Source
ST-1	1380 Willow Road	07/27/2021 1:32 p.m.	65.2	78.9	54.3	Roadway traffic noise, primarily from Willow Road
ST-2	1350 Willow Road	07/28/2021 12:14 p.m.	67.3	79.1	47.5	Roadway traffic noise, primarily from Willow Road
ST-3	1215 O'Brien Drive	07/27/2021 2:45 p.m.	55.8	74.3	48.2	Mechanical hum, most likely from nearby equipment
ST-4	1530 O'Brien Drive	07/27/2021 2:08 p.m.	55.9	71.5	49.4	Roadway traffic noise, primarily from University Avenue and O'Brien Drive
ST-5	1221 Willow Road	07/28/2021 11:44 a.m.	59.5	72.0	45.4	Roadway traffic noise, primarily from Willow Road

Note: See Appendix 3.4 for full noise measurement survey data.
ST = long-term (15-minute) ambient noise measurement.
All noise levels are reported in A-weighted decibels (dBA).

Regulatory Setting

This section provides a summary of noise and vibration regulations, plans, and policies that are relevant to the Proposed Project. Federal, state, and local agencies regulate different aspects of environmental noise. Generally, the federal government sets noise standards for transportation-related noise sources that are closely linked to interstate commerce. These sources include aircraft, locomotives, and trucks. No federal noise standards are directly applicable to the Proposed Project. The state government sets noise standards for transportation noise sources such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local

control through noise ordinances and general plan policies. Local general plans provide goals that are intended to guide and influence development plans. The state and local noise policies and regulations that are applicable to the Proposed Project are described below.

State Regulations

California Code of Regulations Title 24

The 2016 California Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507, Environmental Comfort. Noise standards are applied to new construction in California to control interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where exterior noise levels exceed 65 dBA CNEL, such as within the noise contour of an airport, freeway, railroad, or other area where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of wall and roof/ceiling assemblies must be at least 50. For developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} in any hour of operation, a combined wall and roof/ceiling STC rating of 45 and exterior window STC rating of 40 (minimum) are required (Section 5.507.4.1).

California Department of Transportation

The California Department of Transportation (Caltrans) provides guidelines regarding vibration associated with construction and operation of transportation infrastructure. Table 3.4-6 provides Caltrans' vibration guidelines for potential damage to different types of structures.

Table 3.4-6. Caltrans Vibration Guidelines for Potential Damage to Structures

	Maximum Peak Particle Velocity (PPV, in/sec)	
Structure Type and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation. 2020. *Transportation and Construction Vibration Guidance Manual*. April. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed: July 30, 2021.

Note: Transient sources create a single, isolated vibration event (e.g., blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Generally, people are more sensitive to vibration during nighttime hours, when sleeping, rather than daytime hours. Numerous studies have been conducted to characterize the human response to vibration. Table 3.4-7 provides Caltrans' guidelines regarding vibration annoyance potential (expressed here as PPV).

Table 3.4-7. Caltrans Guidelines for Vibration Annoyance Potential

	Maximum PPV (in/sec)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation. 2020. *Transportation and Construction Vibration Guidance Manual*. April. Available: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Accessed: July 30, 2021.

Note: Transient sources create a single, isolated vibration event (e.g., blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Local Regulations

Menlo Park General Plan

The City General Plan contains general goals, policies, and programs that require local planning and development decisions to consider noise impacts. The Noise and Safety Element sets goals, policies, and implementing programs that work to achieve acceptable noise levels. In addition, the Noise and Safety Element sets land use compatibility noise standards for new developments. The following City General Plan goals, policies, and programs would serve to minimize potential adverse impacts related to noise:

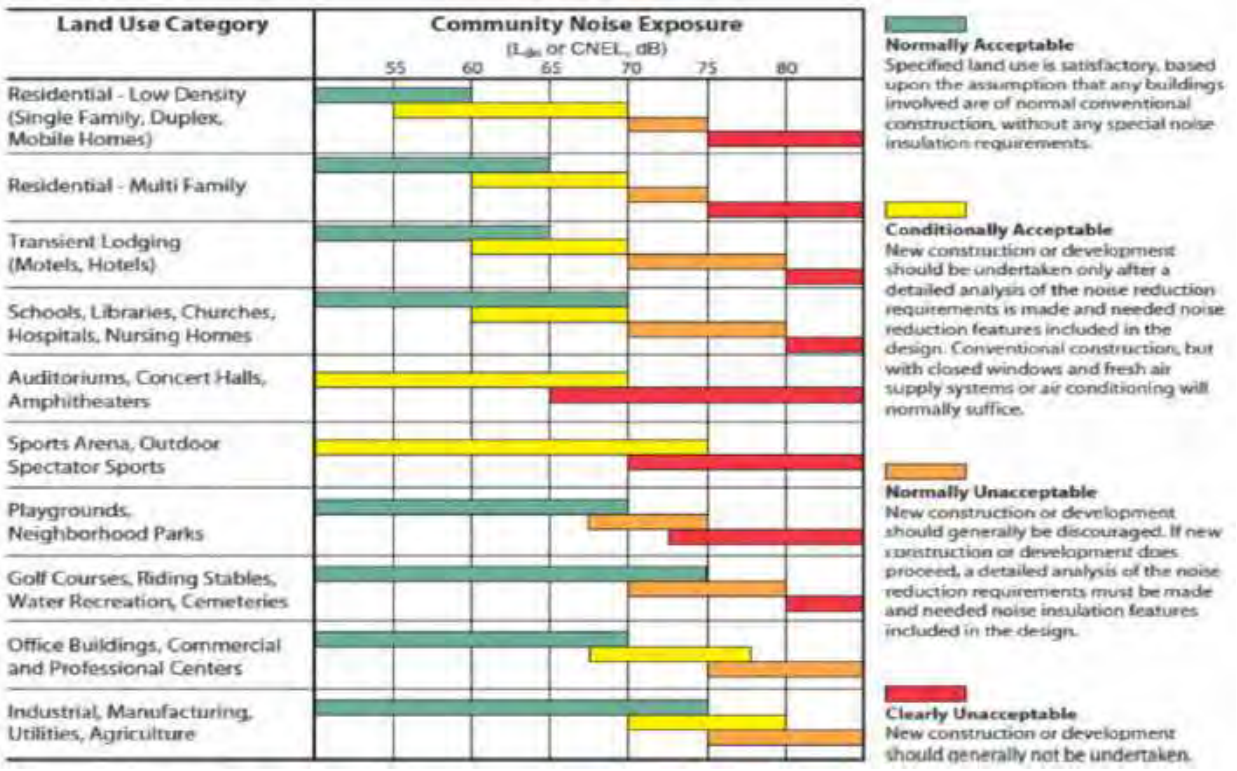
Goal N1: Achieve Acceptable Noise Levels.

Policy N1.1: Compliance with Noise Standards. Consider the compatibility of proposed land uses with the noise environment when preparing or revising community and/or specific plans. Require new projects to comply with the noise standards of local, regional, and building code regulations, including, but not limited to, the Menlo Park Municipal Code, Title 24 of the California Code of Regulations, and subdivision and zoning codes.

Policy N1.2: Land Use Compatibility Noise Standards. Protect people in new development from excessive noise by applying the City's Land Use Compatibility Noise Standards for New Development to the siting and required mitigation for new uses in existing noise environments. (See the City General Plan Noise Element compatibility standards in Table 3.4-8, below.)

Policy N1.4: Noise-Sensitive Uses. Protect existing residential neighborhoods and noise-sensitive uses from unacceptable noise levels and vibration impacts. Noise-sensitive uses include, but are not limited to, hospitals, schools, religious facilities, convalescent homes, and businesses with highly sensitive equipment. Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation, and locate noise-sensitive uses away from noise sources unless mitigation measures are included in development plans.

Table 3.4-8. Land Use Compatibility Noise Standards for New Development



Policy N1.6: Noise Reduction Measures. Encourage the use of construction methods, state-of-the-art noise-abating materials and technology, and creative site design, including, but not limited to, open spaces, earthen berms, parking areas, accessory buildings, and landscaping, to buffer new and existing development from noise and reduce potential conflicts between ambient noise levels and noise-sensitive land uses. Use sound walls only when other methods are not practical or when recommended by an acoustical expert.

Policy N1.7: Noise and Vibration from New Non-Residential Development. Design non-residential development to minimize noise impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration near rail lines and industrial uses.

Policy N1.8: Potential Annoying or Harmful Noise. Preclude the generation of annoying or harmful noise from stationary noise sources, such as construction, property maintenance, and mechanical equipment.

Policy N1.10: Nuisance Noise. Minimize impacts from noise levels that exceed community sound levels through enforcement of the City's Noise Ordinance. Control unnecessary, excessive, and annoying noises within the city where not preempted by federal and state control by implementing and updating the noise ordinance.

Program N1.D: Minimize Construction Activity Noise. Minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and enforcement of the City's Noise Ordinance.

Land use compatibility noise standards are included in the City General Plan Noise and Safety Element (refer to Table 3.4-8, above). According to the Noise and Safety Element, noise levels up to 60 dBA L_{dn} are considered normally acceptable for single-family residential land uses; noise levels are conditionally acceptable up to 70 dBA L_{dn} for such uses as long as noise insulation is included in the design to reduce interior noise levels. For multi-family residential uses and hotels, noise levels of up to 65 dBA L_{dn} are considered normally acceptable; noise levels of 70 dBA L_{dn} are considered conditionally acceptable. For office buildings and commercial uses, noise levels of up to 70 dBA L_{dn} are considered normally acceptable; noise levels of up to 77.5 dBA L_{dn} are considered conditionally acceptable. For industrial uses, noise levels up to 75 dBA L_{dn} are considered normally acceptable; noise levels of up to 80 dBA L_{dn} are considered conditionally acceptable. For schools and churches, playgrounds, and neighborhood parks, noise levels up to 70 dBA L_{dn} are considered normally acceptable; there are no separate conditionally acceptable noise limits for these uses.

Menlo Park Municipal Code

In addition to the City General Plan, the Menlo Park Municipal Code also contains noise regulations. Chapter 8.06 of the Menlo Park Municipal Code contains noise limitations and exclusions for land uses within Menlo Park. The code focuses on noise that constitutes a disturbance, primarily as measured at residential land uses. The regulations below from the Menlo Park Municipal Code would be applicable to the Proposed Project.

8.06.030, Noise Limitations

a. 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 the point on the receiving property nearest to 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 of 8:00 a.m. and 6:00 p.m. Monday through Friday.

    4. Notwithstanding any other provision 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 and 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.

d. 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 between the hours of 9:00 a.m. and 5:00 p.m. Saturdays, Sundays, and holidays.

e. Occasional Social Gatherings. Occasional social gatherings between 11:00 a.m. and 11:30 p.m., provided the noise level for the occasional social gathering measured from any adjacent residential property does not exceed 65 dBA.

8.06.050, Exemptions

a. Sound Generated by Motor Vehicles. Sound generated by motor vehicles, trucks, and buses operated on streets and highways; aircraft; trains; and other public transport.

   1. This exemption shall not apply to the operation of any vehicle, including any equipment attached to 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.

b. Emergency repairs that deal with a health or safety risk and emergency generators or powered equipment used during a power outage or other emergency[.]

Furthermore, the zoning ordinance contains regulations related to roof-mounted equipment.

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 50 dB at a distance of 50 feet from such equipment

Environmental Impacts

This section describes the impact analysis related to noise for the Proposed Project. Specifically, it describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to determine whether an impact would be significant. A summary of the ConnectMenlo EIR impacts and mitigation measures is also provided. As previously discussed in Chapter 1, *Introduction*, the analysis below makes reference to and tiers from the ConnectMenlo Final EIR, where appropriate. This section identifies potential impacts of the Proposed Project and, if necessary, any mitigation measures.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant effect if it would result in any of the conditions listed below.

- Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of a project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?
- Would the Project generate excessive ground-borne vibration or ground-borne noise?
- For a project in the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 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?

Topics Evaluated in the Initial Study

Aircraft Noise. The Initial Study analyzed the potential for aircraft-related noise impacts, given the Proposed Project's proximity to a public airport or private airstrip. According to both the ConnectMenlo EIR and the Initial Study for the Proposed Project, the Proposed Project is within the ConnectMenlo study area. There would be no impact related to aircraft noise for projects within this study area. No further analysis is required.

Methods for Analysis

Construction Noise

To determine if construction would result in noise impacts, a screening analysis was conducted to determine which subphases of construction would require the loudest equipment and result in the greatest noise levels, based on an equipment list provided by the Project Sponsor. Phase-specific construction noise modeling was conducted for the loudest subphase(s) of construction on the Project site, assuming that the three loudest pieces of equipment expected to be used during a given phase of construction would be operating simultaneously and close to one another on the Project site. 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. Demolition and construction activities are expected to occur between 7:00 a.m. and 4:00 p.m. on weekdays, excluding holidays. Therefore, this analysis compares construction noise to the thresholds that apply during the typical daytime construction hours of 8:00 a.m. to 6:00 p.m. and the early morning hour of 7:00 a.m. to 8:00 a.m. (prior to the start of the daytime construction noise exemption period).

In addition to the general noise limits defined in the Menlo Park Municipal Code, and described above, noise from the temporary, occasional, or infrequent use of a specific piece of powered equipment between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday is limited to 85 dBA at a distance of 50 feet. An analysis to determine if equipment proposed for Project construction would comply with this threshold is included below.

Finally, 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 is compared to the existing ambient noise level at nearby noise-sensitive land uses to estimate any temporary increase. An evaluation is conducted to determine if a 10 dB increase over the existing ambient noise level, perceived as a doubling of loudness, would be expected to occur at nearby noise-sensitive land uses.

Operational Traffic Noise

To determine if the Proposed Project would result in a substantial permanent increase in traffic noise, a ratio analysis was conducted to estimate traffic noise increases, based on vehicular traffic data provided by the Project traffic engineer, Hexagon Transportation Consultants. Traffic data provided by the Project traffic engineer included peak-hour turning movement data, which can be converted into average daily traffic, or ADT. In addition, this analysis assumes that vehicle-mix percentages would be constant because the Proposed Project would not appreciably affect the types of vehicles on roadways. Traffic volumes with and without the Proposed Project were then compared to determine if traffic increases associated with the Proposed Project would result in significant traffic noise impacts.

For vehicular traffic noise impacts, in areas where the background and resulting noise levels (baseline plus Project) do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant traffic noise increase. In areas where the baseline and resulting noise levels (baseline plus Project) do exceed the "normally acceptable" level, based on the land use compatibility chart, a 3 dB or larger increase from baseline to baseline plus-Project conditions is considered a significant traffic noise increase.

Based on the ratio analysis described above, comparing background traffic volumes to background plus-Project traffic volumes, a screening assessment is conducted to identify potential traffic noise impacts along roadway segments with existing noise-sensitive land uses that would be exposed to a 3 dB increase in traffic noise attributable to the Proposed Project. In areas where a 3 dB increase is predicted to occur, additional analysis is conducted to determine if background and resulting noise levels would be above or below the "normally acceptable" land use compatibility standard. If background and resulting noise levels would be below the land use compatibility standard, a noise increase of up to 5 dB is allowed before a significant traffic noise impact is identified.

As a point of reference, a 25 percent increase in the traffic volume would result in an approximately 1 dB increase in traffic noise along a given segment, and a 100 percent increase in traffic volume (i.e., a doubling) would result in a 3 dB increase in traffic noise.

Rooftop Mechanical Equipment Noise

Mechanical equipment would be installed throughout the Project site. Proposed equipment would include primarily rooftop HVAC equipment. Noise from HVAC equipment can vary, depending on the type and size of the equipment. Vibrasure[3] completed a detailed analysis to determine if Project mechanical equipment would meet the specified criteria. Estimated noise levels from Project equipment were 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 from any residential property. In addition, noise levels from rooftop equipment were compared to the City limit of 50 dBA at 50 feet.

Emergency Generator Noise

One emergency generator is proposed to be installed as part of the Proposed Project. Operating noise from generators is typically exempt during an emergency, as identified in Section 8.06.050(b) of the Menlo Park Municipal Code. However, 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 the model have not yet been determined for the Project generator; as a result, this analysis is based on noise levels from a representative generator of a size/capacity similar to that for the Proposed Project. A 1,500-kilowatt (kW) Cummins 1500DQGAB generator was used for the generator noise analysis. The Project Sponsor has indicated that the generator would be installed in a concrete masonry enclosure. However, specific details about shielding and attenuation features for the Project generator are not known at this time. Therefore, this analysis conservatively presents unattenuated noise levels from emergency generator testing.

Modeling was conducted to estimate noise from the Project generator, based on its estimated location on the Project site and its size, as provided by the Project Sponsor. 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 from any residential (or, for

[3] Vibrasure. 2021. *1125 O'Brien – Rooftop Equipment Noise Analysis – Memorandum.* Revised June 13 (included in Appendix 3.4).

purposes of this analysis, noise-sensitive) property (noting that many noise-sensitive land uses are located on residentially zoned property). In addition, estimated noise levels are compared to the 85 dBA threshold at 50 feet for powered equipment used on a temporary, occasional, or infrequent basis.

Rooftop Gathering Noise

The Proposed Project includes an exposed deck on the roof of the proposed building. It is anticipated that this deck would be open to individuals or small groups for use as an outdoor break area as well as a place for larger corporate events. Chapter 8.06.040I of the Menlo Park Municipal Code exempts "occasional social gatherings" from the noise limits specified in the code, provided the gatherings take place between the hours of 11:00 a.m. and 11:30 p.m. and do not exceed 65 dBA at any adjacent residential properties. Vibrasure[4] completed a detailed analysis to determine if corporate events would comply with the applicable guidelines. The details and conclusions of this analysis are included in this section.

Construction Vibration

The evaluation of potential vibration-related effects on structures and people from construction of the Proposed Project was based on the construction equipment list provided by the Project Sponsor and the estimated construction equipment vibration levels contained in both the FTA's Transit *Noise and Vibration Impact Assessment* (2006) and Caltrans' *Transportation and Construction Vibration Guidance Manual* (2020). Estimated vibration levels at sensitive uses from construction of the Proposed Project were then compared to the Caltrans damage and annoyance vibration criteria (contained in Tables 3.4-6 and 3.4-7, presented previously) to determine if a vibration impact would be expected. After this analysis was conducted, estimated vibration levels were compared to the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the impacts listed below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[5]

- Construction and operational noise effects were analyzed in the ConnectMenlo EIR as Impact NOISE-1 (pages 4.10-19 to 4.10-24), Impact NOISE-3 (pages 4.10-29 to 4.10-36), and Impact NOISE-4 (pages 4.10-36 and 4.10-37). Impacts were determined to be less than significant with the application of mitigation measures as well as compliance with City General Plan goals and policies. Projects that would result in the development of sensitive land uses must maintain an indoor L_{dn} of 45 dBA or less, as required by ConnectMenlo EIR Mitigation Measure NOISE-1a and existing regulations. Projects that could expose existing sensitive receptors to excessive noise must comply with ConnectMenlo EIR Mitigation Measures NOISE-1b, NOISE-1c, and NOISE-4 to minimize both operational and construction-related noise. ConnectMenlo EIR Mitigation Measure NOISE-1b requires stationary noise sources and landscaping and maintenance activities to comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code. ConnectMenlo EIR Mitigation Measures NOISE-1c and NOISE-4 require development projects in the city to minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval, and/or enforcement of the City Noise Ordinance.

[4] Ibid.

[5] City of Menlo Park. 2016b. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: March 23, 2022.

- Potential traffic noise effects were discussed in the ConnectMenlo EIR as part of Impact NOISE-3 (pages 4.10-29 to 4.10-36). 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 mitigation measures were recommended.
- Construction vibration impacts were analyzed in the ConnectMenlo EIR as Impact NOISE-2 (pages 4.10-25 to 4.10-29). The impact was determined to be significant. With implementation of ConnectMenlo EIR Mitigation Measures NOISE-2a and NOISE-2b, this impact was determined to be reduced to a less-than-significant level. 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. However, because Project-specific information was not available, the analysis did not quantify construction-related vibration impacts on sensitive receptors. Implementation of Mitigation Measure NOISE-2a would reduce construction-related vibration impacts to a less-than-significant level. Mitigation Measure NOISE-2a requires projects that involve vibration-intensive construction activities, such as blasting or the use of pile drivers, jack hammers, and vibratory rollers, within 200 feet of sensitive receptors to be evaluated for potential vibration impacts. Furthermore, "a vibration study shall be conducted for individual projects where vibration-intensive impacts may occur." Specifically, according to Mitigation Measure NOISE-2a from the ConnectMenlo EIR, vibration levels must be limited to a PPV of 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. Regarding long-term vibration impacts, ConnectMenlo requires projects to comply with Mitigation Measure NOISE-2b, which requires the City to implement best management practices as part of the approval process.
- Aircraft noise from public use airports and private airstrips was discussed in the ConnectMenlo EIR as Impact NOISE-5 (page 4.10-38) and Impact NOISE-6 (page 4.10-38). It was determined that impacts regarding excessive aircraft noise levels would be less than significant. There would be no impact related to public airports or private airstrips.

Impacts and Mitigation Measures

Impact NOI-1a: Construction Noise. Construction of the Proposed Project would expose persons to and/or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (SU)

The Proposed Project would involve demolition of three office/warehouse/R&D buildings at 1105, 1135, and 1165 O'Brien Drive on Parcel 1; demolition of the office/warehouse building at 1 Casey Court on Parcel 2; construction of an R&D building on Parcel 1; and construction of a surface parking lot on Parcel 2. The Proposed Project would consist of six phases over approximately 16 months, which may overlap.

- Phase 1: Demolition – 30 days
- Phase 2: Rough Grade/Underground/Foundation/Slab-on-Grade – 139 days
- Phase 3: R&D Building Steel Structure – 117 days
- Phase 4: Building Skin – 126 days
- Phase 5: Building Warm Shell – 130 days
- Phase 6: Sitework – 100 days

As described in the *Methodology for Analysis* section, the following analyses would be conducted to determine if construction noise impacts would be significant:

- **Individual Powered Equipment Noise Threshold.** Noise levels from individual pieces of equipment would be compared to the threshold of 85 dBA at 50 feet for powered equipment used on a temporary, occasional, or infrequent basis between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday.
- **Municipal Code Noise Threshold from 7:00 a.m. to 8:00 a.m.** Construction and demolition noise levels from activities occurring between 7:00 a.m. and 8:00 a.m. (i.e., outside the normal construction hours provided in the Menlo Park Municipal Code) would be compared to the Menlo Park Municipal Code noise threshold of 60 dBA L_{eq}, which applies during that hour.
- **10 dB Increase over Ambient Daytime Threshold.** Construction noise from activities occurring between the hours of 8:00 a.m. and 6:00 p.m. weekdays, which are considered exempt from specified noise limitations in the Menlo Park Municipal Code, would be compared to the existing ambient noise level to estimate temporary increases in noise. A temporary increase in noise resulting from construction may be considered substantial if the analysis predicts a 10 dB (or greater) increase at the nearest sensitive receptor compared to the existing ambient noise level. This increase would be perceived as a doubling in loudness.

Individual Equipment Compliance with Powered Equipment Threshold

As described previously, individual pieces of equipment proposed for use during Project construction would be required to comply with the threshold for powered equipment of 85 dBA at 50 feet. Noise levels generated by the individual pieces of construction equipment planned for use during Project construction are shown in Table 3.4-9. As shown, noise levels would not be expected to exceed 85 dBA L_{eq} at a distance of 50 feet. Because all equipment would comply with the City threshold, noise impacts related to individual pieces of equipment for Project construction would be ***less than significant.***

Parcel 1 – Combined Construction Noise

Equipment proposed for use during Project construction of each phase and subphase was provided by the Project Sponsor (refer to Appendix 3.4 for the full list of construction equipment proposed for use). To determine if construction would result in noise impacts at nearby sensitive uses, a screening analysis was conducted to determine which phases of construction would require the loudest equipment (and therefore result in the loudest combined noise levels). Based on the equipment list provided by the Project Sponsor, the phase that would result in the loudest combined noise levels on Parcel 1 (the southern parcel) would be Phase 2 (Rough Grade/Underground/Foundation/Slab-on-Grade [SOG]). Phase 6 construction activities (Sitework) would result in similar but slightly lower noise levels; therefore, Phase 2 noise levels are presented in this analysis to ensure a conservative assessment (refer to Table 3.4-10 for the estimated combined noise levels from the Rough Grade/Underground/Foundation/SOG phase for Parcel 1).

The nearest residences to Parcel 1 are approximately 310 feet to the south, along Alberni Street, and 310 feet to the east, along Kavanaugh Drive. Noise levels from the Rough Grade/Underground/ Foundation/SOG phase at a distance of 310 feet would be approximately 67 dBA L_{eq}, according to the modeling results presented in Table 3.4-10.

Table 3.4-9. Individual Construction Equipment L_{eq} Noise Levels, Based on Standard Utilization Rates

	Individual Equipment Noise Levels (dBA) at 50 Feet		
Equipment	**dBA L_{max}**	**Utilization Factor (%)**	**dBA L_{eq}[a]**
Aerial lifts	75	20	68
Auger drill	84	20	77
Backhoe	78	40	74
Compactor	83	20	76
Concrete pump truck	81	20	74
Concrete mixer truck	79	40	75
Concrete saw	90	20	83
Crane	81	16	73
Dozer	80	20	78
Dump truck	76	40	72
Excavator	81	40	77
Front-end loader	79	40	75
Generator	81	50	78
Grader	85	40	81
Jackhammer/air compressor	89	20	82
Paver	77	50	74
Pickup truck	75	40	71
Roller	80	20	73
Tractor	84	40	80
Trencher	80	50	77
Welder/torch	74	40	70
Vacuum excavator (vac-truck)	85	40	81

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: May 18, 2021.

[a] Based on standard estimated utilization rates from the Federal Highway Administration.

Table 3.4-10. Parcel 1 Estimated Worst-Case Construction Noise (L_{max} and L_{eq})

Source Data	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Rough Grade, Underground, Foundation, SOG – Parcel 1			
Source 1: auger drill rig – sound level (dBA) at 50 feet =	84	20%	77.0
Source 2: grader – sound level (dBA) at 50 feet =	85	40%	81.0
Source 3: concrete pump truck – sound level (dBA) at 50 feet =	81	20%	74.0
Calculated Data			
All sources combined – L_{max} sound level (dBA) at 50 feet =			88.4 L_{max}
All sources combined – L_{eq} sound level (dBA) at 50 feet =			83.1 L_{eq}
Distance between Source and Receiver (feet)	**Geometric Attenuation (dB)**	**Calculated L_{max} Sound Level (dBA)**	**Calculated L_{eq} Sound Level (dBA)**
50	0	88.4	83.1
100	-6	82.4	77.0
150	-10	78.9	73.5
190[a]	**-12**	**76.8**	**71.5**
200	-12	76.4	71.0
250	-14	74.4	69.1
310[b]	**-16**	**72.6**	**67.2**
400	-18	70.3	65.0
600	-22	66.8	61.5
750	-24	64.9	59.5

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: November 18, 2021.

Note: Geometric attenuation is based on 6 dB per doubling of distance. This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.

Bold denotes distances to specific individual receptors and the quantitative sound levels used in the impact analysis.

a. The Wund3rSCHOOL/Open Mind School (school building and schoolyard) is 190 feet from Parcel 1.

b. The nearest residences are 310 feet away from Parcel 1.

The nearest school to Parcel 1 is the Wund3rSCHOOL/Open Mind School. The school building and schoolyard are both approximately 190 feet north of Parcel 1. Noise levels at the school building and schoolyard during the loudest construction activities on Parcel 1 would be approximately 72 dBA L_{eq}.

Project construction taking place between 7:00 a.m. and 8:00 a.m. must comply with the threshold of 60 dBA L_{eq} at the nearest noise-sensitive uses. Some construction activities may start at 7:00 a.m. These could result in noise levels of approximately 67 and 72 dBA L_{eq} at the nearest residence and the school, respectively. Therefore, Parcel 1 Project construction could result in noise levels in excess of the applicable threshold of 60 dBA between 7:00 a.m. and 8:00 a.m. at nearby residential and school land uses. Although the Wund3rSCHOOL/Open Mind School opens at 8:00 a.m., some activities may occur between 7:00 a.m. and 8:00 a.m. Such activities would be considered sensitive because of the early hour.

Regarding construction noise generated during the normal construction hours in Menlo Park of 8:00 a.m. to 6:00 p.m., the general daytime noise threshold in Menlo Park of 60 dBA at the nearest residential land use does not apply to construction noise, but an analysis must be conducted to determine if a 10 dB or

greater increase over the ambient noise level would occur. The ambient noise levels at the residences south and east of Parcel 1 are represented by LT-1 and LT-3, which had a recorded 24-hour noise level of approximately 61 to 67 dBA L_{dn}, as shown in Table 3.4-4, and approximately 57 (for LT-3) to 63 dBA L_{eq} (for LT-1) for the lowest 1-hour daytime L_{eq} noise level (as shown in Appendix 3.4). Using the lowest daytime L_{eq} noise level to characterize the existing ambient level provides a conservative baseline noise level, even though noise levels would be greater during the rest of the daytime period. In addition, shielding from intervening buildings would somewhat reduce construction noise at the nearest residences. Without accounting for attenuation, a combined noise level of 67 dBA L_{eq} is 10 dB greater than the lowest daytime 1-hour L_{eq} noise level recorded at LT-3 during the measurement window and only 4 dB above the lowest daytime 1-hour L_{eq} noise level recorded at LT-1. Therefore, when considering attenuation from intervening buildings, which can reduce noise by 5 to 10 dB if the full line of sight between source and receiver is blocked, construction noise during the normal daytime hours for construction of 8:00 a.m. to 6:00 p.m. would be unlikely to result in a 10 dB or greater increase in the ambient noise level. Construction noise impacts from Parcel 1 at the nearest residences during the normal daytime hours of 8:00 a.m. to 6:00 p.m. would be ***less than significant***.

The ambient noise levels near the Wund3rSCHOOL/Open Mind School are represented by ST-3, which had a measured noise level of 55.8 dBA L_{eq}, as shown in Table 3.4-5. A combined noise level of 72 dBA L_{eq} from Parcel 1 construction could therefore result in an approximately 16 dB increase in noise over the ambient noise level, which is greater than the allowed 10 dB noise increase threshold. As a result, daytime construction noise impacts from Parcel 1 at this school would be considered ***significant***, and mitigation would be required.

In conclusion, construction noise during daytime hours would comply with the threshold of 85 dBA at 50 feet for individual pieces of equipment. However, construction noise during daytime hours may result in a 10 dB or greater increase in the ambient noise level at the Wund3rSCHOOL/Open Mind School (primarily outside in the schoolyard). In addition, construction noise during the early-morning hour of 7:00 a.m. to 8:00 a.m. may exceed the allowable 60 dBA L_{eq} noise limit at both the nearest residential and school uses. Therefore, construction noise impacts from Parcel 1 would be considered ***significant***, and mitigation would be required.

Parcel 2 – Combined Construction Noise

With Project implementation, Parcel 2 would be developed into a surface parking lot. No vertical construction would take place on this site; however, rough grading and sitework would still be required. Based on the equipment list provided by the Project Sponsor, the Sitework construction phase would involve the loudest individual pieces of equipment and result in the highest combined noise levels of all construction phases proposed for this parcel (refer to Table 3.4-11 for the estimated combined noise levels from the Sitework phase for Parcel 2).

The nearest residences to the Parcel 2 site are approximately 530 feet to the east (along Kavanaugh Drive) and 540 feet to the south (along Alberni Street). Based on the modeling results presented above, noise levels from sitework could be approximately 62 to 63 dBA L_{eq} at these residences.

Table 3.4-11. Parcel 2 Estimated Worst-Case Construction Noise (L_{max} and L_{eq})

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Parcel 2 Sitework			
Source 1: grader – sound level (dBA) at 50 feet =	85	40%	81.0
Source 2: concrete pump truck – sound level (dBA) at 50 feet =	81	20%	74.0
Source 3: trencher – sound level (dBA) at 50 feet =	80	50%	77.0
Calculated Data			
All sources combined – L_{max} sound level (dBA) at 50 feet =			88.4 L_{max}
All sources combined – L_{eq} sound level (dBA) at 50 feet =			83.1 L_{eq}
Distance between Source and Receiver (feet)	**Geometric Attenuation (dB)**	**Calculated L_{max} Sound Level (dBA)**	**Calculated L_{eq} Sound Level (dBA)**
15[a]	**10**	**97.8**	**93.5**
50	0	87.3	83.0
80[b]	**-4**	**83.3**	**79.0**
100	-6	81.3	77.0
150	-10	77.8	73.5
300	-16	71.8	67.5
530[c]	**-21**	**66.8**	**62.5**
540[c]	**-21**	**66.7**	**62.4**
750	-24	63.8	59.5

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: November 18, 2021.

Note: Geometric attenuation is based on 6 dB per doubling of distance. This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.

Bold denotes distances to specific individual receptors and the quantitative sound levels used in the noise impact analysis.

a. The Wund3rSCHOOL/Open Mind School (schoolyard) is 15 feet from Parcel 2.

b. The Wund3rSCHOOL/Open Mind School (school building) is 80 feet from Parcel 2.

c. The nearest residences are 530 and 540 feet away from Parcel 2.

The Wund3rSCHOOL/Open Mind School is the closest school to Parcel 2. The school building and schoolyard are approximately 80 feet and 15 feet, respectively, east of Parcel 2. At a distance of 80 feet, combined construction noise from Parcel 2 could be up to 79 dBA L_{eq}. At a distance of 15 feet, combined noise levels could be up to 94 dBA L_{eq}. The worst-case construction noise impact scenario for Parcel 2 assumes that all construction would occur adjacent to the school property. However, much of the demolition and construction would be farther from the Project boundary and, in areas, expected to result in fewer noise impacts on the school than those depicted in Table 3.4-11. Furthermore, the three pieces of noisiest equipment evaluated in the study would not likely be operating simultaneously and together along the property line, resulting in lower actual construction noise levels.

Project construction taking place between 7:00 a.m. and 8:00 a.m. must comply with the threshold of 60 dBA L_{eq} at the nearest noise-sensitive uses. Construction activities that start at 7:00 a.m. could result in noise levels of approximately 63 and 94 dBA L_{eq} at the residences and the school, respectively. Therefore, Parcel 2 Project construction could result in noise levels in excess of the applicable 60 dBA threshold between 7:00 a.m. and 8:00 a.m. at the nearby residential and school uses.

Regarding construction noise generated during the normal construction hours in Menlo Park of 8:00 a.m. to 6:00 p.m., an analysis must be conducted to determine if a 10 dB increase over the ambient noise level would occur. The ambient noise levels at the residences in proximity to Parcel 2 are represented by LT-1 and LT-3, which had a recorded a 24-hour noise level of approximately 61 to 67 dBA L_{dn}, as shown in Table 3.4-4, and approximately 57 (for LT-3) to 63 dBA L_{eq} (for LT-1) for the lowest 1-hour daytime L_{eq} noise level (as shown in Appendix 3.4). Shielding from intervening buildings would somewhat reduce construction noise at the nearest residences. Without accounting for attenuation, a combined noise level of 62 to 63 dBA L_{eq} would be approximately 5 dB greater than the lowest daytime 1-hour L_{eq} noise level recorded at LT-3 during the measurement window. When considering attenuation from intervening buildings, construction noise at the nearest residences would be further reduced. Therefore, during the normal daytime hours for construction of 8:00 a.m. to 6:00 p.m., construction noise would be unlikely to result in a 10 dB or greater increase in the ambient noise level. Construction noise impacts from Parcel 2 at the nearest residences during the normal daytime hours of 8:00 a.m. to 6:00 p.m. would be ***less than significant***.

The ambient noise levels near the Wund3rSCHOOL/Open Mind School are represented by ST-3, which had a measured noise level of 55.8 dBA L_{eq}, as shown in Table 3.4-5. A combined noise level of 79 (at the school building) to 94 dBA L_{eq} (at the schoolyard) from Parcel 2 construction could therefore result in an approximately 23 to 38 dB increase in noise over the ambient noise level, which is greater than the allowed 10 dB noise increase threshold. As a result, daytime construction noise impacts from Parcel 2 at the school building and schoolyard would be considered ***significant***, and mitigation would be required.

In conclusion, construction noise during daytime hours would comply with the threshold of 85 dBA at 50 feet for individual pieces of equipment. However, construction noise during daytime hours may result in a 10 dB or greater increase in the ambient noise level at the Wund3rSCHOOL/Open Mind School (school building and schoolyard). In addition, construction noise during the early-morning hour of 7:00 a.m. to 8:00 a.m. may exceed the allowable 60 dBA L_{eq} limit at both the nearest residential and school uses. Therefore, construction noise impacts from Parcel 2 would be considered ***significant***, and mitigation would be required.

Conclusion

All construction equipment for the Proposed Project would comply with the threshold of 85 dBA at 50 feet for powered equipment used during daytime hours between 8:00 a.m. and 6:00 p.m. Construction taking place during normal construction hours, as specified in the Menlo Park Municipal Code (i.e., 8:00 a.m. to 6:00 p.m.), would be exempt from the daytime 60 dBA noise threshold. Estimated worst-case construction noise levels at the residential and school uses from both Parcel 1 and Parcel 2 are summarized in Table 3.4-12.

Table 3.4-12. Parcel 1 and 2 Estimated Worst-Case Construction Noise at Nearest Sensitive Uses

Noise-Sensitive Use	Closest Distance to Project Construction (feet)	Parcel Resulting in Loudest Construction Noise at This Use	Estimated Combined Construction Noise Level (dBA L_{eq})
Residential (Kavanaugh Drive)	310	Parcel 1	67
Residential (Alberni Street)	310	Parcel 1	67
The Open Mind School (building)	80	Parcel 2	79
The Open Mind School (schoolyard)	15	Parcel 2	94

Construction noise at the nearest residences during daytime hours would not be expected to result in an increase of 10 dB or more over the ambient level during either Parcel 1 or Parcel 2 construction. However, during both Parcel 1 and Parcel 2 construction during daytime hours, a 10 dB increase over the ambient noise level may occur at the Wund3rSCHOOL/Open Mind School (school building and schoolyard).

Construction in Menlo Park that takes place between 7:00 a.m. and 8:00 a.m. must generally comply with the threshold of 60 dBA L_{eq} at the nearest noise-sensitive uses. Because proposed construction activities may start at 7:00 a.m., according to the Project construction details, construction activities could result in noise levels of approximately 67 and 94 dBA L_{eq} at the nearest residence and school facility, respectively. Therefore, Parcel 1 and Parcel 2 construction could result in noise levels in excess of the applicable 60 dBA threshold between 7:00 a.m. and 8:00 a.m. at nearby residential and school uses.

Project construction noise impacts during daytime hours at the nearby school would be considered ***significant***, and construction noise impacts between 7:00 a.m. and 8:00 a.m. at both the nearest residential land uses and the school would be considered ***significant*** and mitigation would be required for both determinations.

MITIGATION MEASURES. Implementation of modified ConnectMenlo EIR Mitigation Measure NOISE-1c, which requires a reduction in construction noise, and Project-specific Mitigation Measures NOI-1.1 and NOI-1.2 would reduce construction noise and the severity of impacts associated with the Proposed Project. However, it may not be possible at all times and at all locations to reduce noise to less-than-significant levels. For example, locating equipment as far as possible from noise-sensitive uses and fitting it with mufflers and sound control devices would reduce noise from Project construction but may not reduce it enough to prevent a 10 dB increase over the ambient noise level at the nearest school land use or a noise level greater than 60 dBA between 7:00 a.m. and 8:00 a.m. In addition, installing a temporary construction sound barrier (NOI-1.2) may not reduce noise from all construction activities to below the applicable significance criteria at the nearest receptors, even if noise is somewhat reduced. For these reasons, construction noise impacts during daytime hours at the nearest school and during non-daytime hours at the nearest residential and school uses would be ***significant and unavoidable,*** even after the application of mitigation***.***

NOISE-1c (Modified* ConnectMenlo EIR) *Construction Noise Reduction.* Project Sponsor, or designated representative, shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity. Prior to issuance of 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 those 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.

*The modifications to this Connect Menlo EIR mitigation measure include providing a descriptive name; changing the terms "Project applicant" and "property owner/developer" to "Project Sponsor, or a designated representative"; and deleting the reference to future CEQA review (since this EIR is the future CEQA review).

NOI-1.1 *Implement Noise Reduction Plan to Reduce Construction Noise*. The Project Sponsor shall develop a noise reduction plan for construction at the Project site. The plan shall specify the noise-reducing construction practices that will be implemented to reduce noise from construction activities and demonstrate that compliance with the standards will be achievable, to the maximum extent feasible as determined by the Director of Community Development. If the noise reduction plan cannot demonstrate compliance with the standards outside the daytime hours of 8:00 a.m. to 6:00 p.m., construction activities will be required to occur only during daytime hours. The measures specified by the Project Sponsor shall be reviewed and approved by the City prior to issuance of building permits. The noise reduction plan shall:

- Demonstrate that construction activities shall comply with the applicable noise limit for the time of day, as follows:
    - Between 7:00 am and 8:00 a.m. Monday through Friday (i.e., outside the daytime construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday), construction noise shall comply with the 60 dBA L_{eq} limit.
    - Between 8:00 a.m. to 6:00 p.m. Monday through Friday, construction noise shall not result in a 10 dB increase in noise over the ambient level at nearby sensitive receptors. Activities that would produce noise above the applicable early-morning noise limit shall be scheduled only during normal construction hours.
- Verify that no construction activities shall take place prior to 7:00 a.m.
- Verify that construction activities will be conducted at adequate distances, or otherwise shielded with sound barriers, as determined through a detailed noise analysis, from noise-sensitive receptors to comply with the aforementioned thresholds.

Measures used to control construction noise may include, but are not limited to:

- Plan for the noisiest construction activities to occur during the daytime hours of 8:00 a.m. to 6:00 p.m.
- Require all construction equipment to be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) that are in good condition (at least as effective as those originally provided by the manufacturer) and appropriate for the equipment.
- Maintain all construction equipment to minimize noise emissions.
- Locate construction equipment as far as feasible from adjacent or nearby noise-sensitive receptors.
- Require all stationary equipment be located so as to maintain the greatest possible distance to the nearby existing buildings, where feasible and practical.

- Require stationary noise sources associated with construction (e.g., generators and compressors) in proximity to noise-sensitive land uses to be muffled and/or enclosed within temporary enclosures and shielded by barriers to the extent feasible and practical, which can reduce construction noise by as much as 5 dB.
- Install noise-reducing sound walls or fencing (e.g., temporary fencing with sound blankets) around noise-generating equipment, to the extent feasible and practical.
- Prohibit the idling of inactive construction equipment for prolonged periods (i.e., more than 2 minutes) during nighttime/non-standard hours.
- Use electric motors rather than gasoline- or diesel-powered engines to avoid noise associated with compressed air exhaust from pneumatically powered tools during nighttime hours to the extent feasible and practical (as determined by the City). Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust could be used; a muffler can lower noise levels from exhaust by about 10 dB. External jackets on the tools themselves could be used, which could achieve a reduction of 5 dB.

The noise control plan shall also include provisions for the following:

- Provide advance notification in the form of mailings/notices to surrounding land uses regarding the construction schedule, including information regarding the various types of activities that would be occurring throughout the duration of the construction period.
- Post the name and telephone number of an onsite construction liaison through onsite signage and the notices mailed/delivered to surrounding land uses. If construction noise is found to be intrusive to the community (i.e., if complaints are received), the construction liaison shall take reasonable efforts to investigate the source of the noise and require that reasonable measures be implemented to correct the problem.

NOI-1.2 *Sound Barrier*. Prior to issuance of the first construction permit for Parcel 2, a noise barrier shall be erected along the eastern property line of Parcel 2, facing the property addressed as 1215 O'Brien Drive, and along the Casey Court frontage of Parcel 2. The gate providing vehicle access from Casey Court to Parcel 2 shall be constructed of similar material and shall be kept closed when not in use. Alternatively, the applicant may elect to construct the noise barrier along the Wund3rSCHOOL/Open Mind School's frontage on Casey Court to the building housing the school instead of along the Parcel 2 street frontage. The temporary noise barriers should be at least 12 feet high and constructed of material with a minimum weight of 2 pounds per square foot, with no gaps of perforations. All noise control barrier walls shall be designed to preclude structural failure due to such factors as winds, shear, shallow soil failure, earthquakes, and erosion. The design and location of the sound barrier shall be supported by a technical analysis of the proposed design and installed prior to demolition/construction. The design of the sound barrier may be incorporated into the noise control plan in Mitigation Measure NOI-1.1.

Impact NOI-1b: Operational Noise. Operation of the Proposed Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (LTS/M)

Operational Traffic Noise

The Proposed Project could result in increased traffic noise in the vicinity. To determine if the Proposed Project would result in a substantial permanent increase in traffic noise levels, a ratio analysis was conducted, based on ADT data provided by Hexagon Transportation Consultants. Traffic volumes for background and background plus-Project conditions were compared to determine if traffic increases associated with the Proposed Project would result in significant traffic noise impacts.

In areas where the background and resulting noise levels (background plus Project) do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant traffic noise increase. In areas where the background and resulting noise levels (background plus Project) do exceed the "normally acceptable" level, based on the land use compatibility chart, a 3 dB or larger increase from baseline to baseline plus-Project conditions is considered a significant traffic noise increase.

Peak-hour turning movements provided by the Project traffic engineer were converted into ADT volumes by calculating roadway segment volumes for each peak-hour scenario and multiplying the average of the a.m. and p.m. peak-hour segment volumes by 10 (per direction from the Project traffic engineer). Data were received for eight intersections; the 32 associated roadway segments were analyzed. The maximum increases in traffic attributable to the Proposed Project identified on any roadway segment was 5 percent. Most segments analyzed in the traffic noise analysis would experience a 0 to 1 percent increase in traffic as a result of the Proposed Project. An increase of 5 percent attributable to the Proposed Project correlates to an increase in noise of approximately 0.2 dB, far below the 3 dB increase necessary before a traffic noise increase is considered to be "barely perceptible" (refer to Appendix 3.4 for the full results of the traffic noise analysis). Table 3.4-13 presents a summary of the ratio analysis for segments that would experience at least a 2 percent increase in traffic.

Table 3.4-13. Traffic Noise Increases from Project Implementation

		Average Daily Traffic (ADT) Volumes			Approximate Noise Increase from Project (dB)
Roadway	Segment	Background ADT	Background plus Project ADT	Percentage Increase	
O'Brien Drive	East of Willow Road	8,195	8,645	5%	0.2
Kavanaugh Drive	East of O'Brien Drive	3,265	3,325	2%	0.1
O'Brien Drive	North of Kavanaugh Drive	6,095	6,425	5%	0.2
O'Brien Drive	South of Kavanaugh Drive	8,740	9,110	4%	0.2
O'Brien Drive	West of University Avenue	4,035	4,245	5%	0.2
Kavanaugh Drive	West of University Avenue	2,805	2,855	2%	0.1

Based on the ratio analysis, the maximum Project-related traffic noise increase along any roadway segment would be 0.2 dB. Therefore, because Project-related traffic increases would not result in traffic noise increases in excess of the thresholds along segments with noise-sensitive land uses, Project traffic noise impacts would be ***less than significant.***

Rooftop Mechanical Equipment

The Proposed Project would include various pieces of mechanical equipment on the roof, including air-condensing units behind a 16.5-foot-tall roof screen, as well as boilers, pumps, and a fan coil unit in a rooftop penthouse. Chapter 16.08 of Menlo Park Municipal Code states that noise emitted by mechanical equipment shall not exceed 50 dB at a distance of 50 feet. In addition, noise in Menlo Park is limited to 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.).

Noise from HVAC equipment can vary, depending on the type of equipment and the size. A detailed analysis was completed by Vibrasure[6] to determine if Project mechanical equipment would meet the specified criteria mentioned above. Note that the specific makes and models of the equipment proposed for the Proposed Project are not included in the memorandum, nor are the specification sheets, which would show source noise levels for each equipment piece. However, the analysis does include source noise levels for Project equipment at 50 feet in Table 1 of the memorandum.

Table 3.4-14 provides estimated noise levels for mechanical equipment, as calculated by Vibrasure, at a distance of 50 feet. The estimated noise level values factor in a noise reduction value, resulting from barrier losses from the 16.5-foot-tall roof screen (described above).

Table 3.4-14: Rooftop Mechanical Equipment Reference Noise Levels at 50 feet

Equipment	Equipment Noise Level at 50 feet (dBA)[a]
AC-1 through AC-3	46
AC-1 through AC-3 condenser units	50
EF-1 through EF-3	37
EF-4	31
Condensing unit CU-1	12

[a.] Noise level includes attenuation due to roof screen.

According to Table 3.4-14, all modeled equipment would meet the criterion of 50 dBA at 50 feet for rooftop equipment, as outlined in Menlo Park Municipal Code Chapter 16.08.095. In addition, as discussed in the Vibrasure memorandum, the AC-1 through AC-3 condenser units are the loudest pieces of equipment. As a result, the memorandum included calculated condenser-unit noise levels from individual condenser units at adjacent receptors. As mentioned previously, the analysis included noise attenuation from the building edge and the 16.5-foot-tall roof-mounted equipment screening wall. Table 3.4-15 provides the estimated mechanical equipment noise levels at the nearest offsite land uses, as calculated by Vibrasure.

[6] Vibrasure. 2021. *1125 O'Brien – Rooftop Equipment Noise Analysis – Memorandum.* Revised June 13. (Included in Appendix 3.4.)

Table 3.4-15: Noise Calculations at Adjacent Receptors from Condensing Units

Location	Distance (feet)[a]	Noise Level with Distance Attenuation and Barrier Losses (dBA)[b]
1075 O'Brien (commercial	240	32
1180 O'Brien (commercial)	106	37
1185 O'Brien (commercial)	68	40
1215 O'Brien (school)	180	34
Residences along Alberni Street	394	29

[a] The distance from the closest location of an AC-1/AC-2/AC-3 condenser unit to the receptor property line.
[b] This noise level includes both distance attenuation and barrier losses from the 16.5-foot-tall roof screen/roof edge.

The calculated noise levels from the proposed rooftop equipment at a distance of 50 feet meet the 50 dBA noise limit established in the Menlo Park Municipal Code. In addition, when accounting for distance attenuation and the barrier losses from the height of the building, the roof screen, and the edge of the roof, the noise levels from individual pieces of equipment would be below 40 dBA at all adjacent receptors; at the nearest residential use, noise would be an estimated maximum of 29 dBA. In addition, the calculated level of 34 dBA at the school is also well below the 50 dBA nighttime limit. Based on this analysis, condenser-unit noise also meets Menlo Park Municipal Code noise thresholds for daytime and nighttime noise levels.

The analysis shows that mechanical noise from a condenser unit producing typical noise levels would meet the noise criteria at the nearest neighboring land uses. However, Project HVAC equipment makes and models are not yet final, and equipment noise from multiple pieces of rooftop equipment operating simultaneously could combine to result in greater overall noise levels or noise levels in excess of overall Menlo Park Municipal Code noise thresholds (e.g., 60 dBA during daytime hours, 50 dBA during nighttime hours). For example, a typical air-handling/HVAC unit with condensing units and fans can generate sound levels in the range of 70 to 75 dBA at 50 feet, which would have the potential to exceed the allowable noise levels in Menlo Park.[7] The estimated noise levels for Project-specific equipment are lower than these levels, but Project mechanical equipment has not yet been finalized. In addition, regarding combined noise levels, should AC-1 through AC-3 operate simultaneously and each result in a noise level of 50 dBA at 50 feet, the combined noise from the three operating simultaneously would be approximately 4.8 dB louder; the estimated combined noise level from the three operating at once would be 54.8 dBA L_{eq}. Therefore, because equipment selections are not yet final, and because multiple pieces of equipment may operate simultaneously and increase overall operational mechanical equipment noise levels generated at the Project site, impacts related to combined rooftop equipment noise levels would be ***significant***.

MITIGATION MEASURES. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.3 would ensure that noise from Project mechanical equipment would be in compliance with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, impacts from Project mechanical equipment would be ***less than significant with mitigation***.

NOISE-1b *(ConnectMenlo EIR Mitigation Measure) Stationary Noise Sources.* Stationary noise sources and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.

[7] Hoover and Keith. 2000. *Noise Control for Buildings, Manufacturing Plants, Equipment, and Products*. Houston, TX.

NOI-1.3 *Mechanical Equipment Noise Reduction Plan.* To reduce potential noise impacts resulting from Project mechanical equipment, including heating, cooling, and ventilation equipment, the Project Sponsor shall conduct a noise analysis to estimate the noise levels from Project-specific mechanical equipment, based on the selected equipment models and design features. If the noise analysis indicates that the proposed rooftop equipment will exceed the appropriate standard, a mechanical equipment noise reduction plan shall be prepared to ensure that the noise levels of equipment, once installed, are below the applicable criteria. The noise reduction plan shall include any necessary noise reduction measures required to reduce Project-specific mechanical equipment noise to a less-than-significant level. The plan shall also demonstrate that, with the inclusion of selected measures, noise from equipment would be below the significance thresholds. Feasible noise reduction measures to reduce noise below the significance thresholds include, but are not limited to, selecting quieter equipment, utilizing silencers and acoustical equipment at vent openings, siting equipment farther from the roofline, and/or enclosing all equipment in a mechanical equipment room designed to reduce noise. The noise analysis and noise reduction plan shall be prepared by persons qualified in acoustical analysis and/or engineering. This analysis shall be conducted and the results and final noise reduction plan shall be provided to the City prior to the issuance of building permits for each building.

The Project Sponsor shall incorporate all feasible methods to reduce the noise identified above, as well as other feasible recommendations from the acoustical analysis and noise reduction plan, into building designs and operations as necessary to ensure that noise sources meet applicable requirements of the respective noise ordinances at receiving properties.

Emergency Generator Noise

The Proposed Project would include one 1,500 kW generator, which would create periodic noise during testing as well as times when a power outage occurs and backup power is required. Noise from the operation of emergency generators during an emergency is not required to comply with the local noise limits of the City (Menlo Park Municipal Code, Subsection 8.06.040[b][1], Exceptions). However, even though the testing of emergency generators is a short-term and intermittent process, noise resulting from generator testing must comply with local noise limits for operational equipment noise. Typically, the Project generator would be tested once a week for a period of up to 15 minutes.

In Menlo Park, noise levels must comply with Section 8.06.030 of the Menlo Park Municipal Code, which includes maximum allowable noise levels, as measured at the receiving residential property. Noise during daytime hours (7:00 a.m. to 10:00 p.m.) in Menlo Park is generally limited to 60 dBA, and noise during nighttime hours (10:00 p.m. to 7:00 a.m.) is generally limited to 50 dBA. Note that Section 8.06.040(b) of the Menlo Park Municipal Code also states that noise from powered equipment used on a temporary, occasional, or infrequent basis during the hours of 8:00 a.m. to 6:00 p.m. Monday through Friday shall be limited to 85 dBA at a distance of 50 feet from the source. Testing of the Project emergency generator would take place during the weekday daytime hours listed above. Therefore, this analysis assesses the potential for generator testing noise to exceed the threshold of 85 dBA at a distance of 50 feet or the daytime threshold of 60 dBA at the residential property line (or sensitive-use property line).

Noise levels from a representative 1,500 kW generator (a Cummins 1500 DQGAB generator) were used in this analysis.[8] A 1,500 kW emergency generator can generate a noise level of up to 104 dBA at a distance of 50 feet, without any noise attenuation features (e.g., weather enclosures, exhaust mufflers, or shielding from intervening buildings). According to the Project Sponsor, the generator would be located within a masonry enclosure, which would help reduce generator noise. However, the specifics for the enclosure are not known at this time; therefore, the specific noise reduction offered by the enclosure cannot be accurately estimated. Although the generator may be fitted with exhaust mufflers or silencers that reduce exhaust noise, specifics related to these features are not known at this time. Therefore, unattenuated generator noise levels are conservatively used in this analysis.

The proposed generator would be located in the northeastern portion of the Project site, at a distance of at least 190 feet from the nearby school and 310 feet from the nearest residence. Without accounting for attenuation resulting from building shielding or the proposed enclosure, unattenuated noise from generator testing at a distance of 190 feet (at the Wund3rSCHOOL/Open Mind School) could be up to 92 dBA during testing. In addition, at the nearest residence (more than 310 feet to the east), unattenuated generator noise during testing could be up to 88 dBA. Note that these estimates do not account for attenuation from intervening shielding, a generator enclosure, or exhaust mufflers that may be selected; therefore, generator noise levels may be lower than the estimates.

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.

MITIGATION MEASURES. Project Mitigation Measure NOI-1.4 requires preparation of an emergency generator noise reduction plan that includes effective attenuation features. To result in meaningful attenuation from shielding, all walls, enclosures, or screens surrounding generators must be solid, with no holes or gaps. Attenuation also varies, based on the type of material used for the walls or screens. In addition, exhaust noise from generators is not always mitigated by enclosures because the exhaust may need to be piped to the exterior of the building or enclosure. To reduce exhaust noise from the Project generator, mufflers or critical-grade silencers may be needed. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.3 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***.

NOISE-1b *(ConnectMenlo EIR Mitigation Measure) Stationary Noise Sources.* Stationary noise sources and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.

NOI-1.4 *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 generator, 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

[8] Cummins Power Generation. n.d. *Cummins 1500 DQGAB generator Specification Sheet.*

issuance of building permits. The 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:

- 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.

Rooftop Gathering Noise

The Proposed Project includes an exposed deck on the roof of the building, which would be open to individuals or small groups for use as an outdoor break area (e.g., lunch breaks) as well as place for larger corporate events. As described in the *Methods for Analysis* section, Chapter 8.06.040(e) of the Menlo Park Municipal Code exempts "occasional social gatherings" from the noise limits specified in the code, provided they take place between the hours of 11:00 a.m. and 11:30 p.m. and do not exceed 65 dBA at any adjacent residential properties. A detailed analysis was completed by Vibrasure[9] to determine if corporate events would comply with the applicable guidelines. The results of the analysis are summarized below.

The following assumptions were used in the analysis of event noise from the Project roof deck:

- Most events will include presentations, with some light background music.
- Presentations will be oriented toward the south.
- Events are expected to last 2 to 3 hours and be completed by approximately 7:00 p.m.
- There would be roughly six events per year.
- The deck will be designed to accommodate 270 people; however, the analysis is conservatively based on a code allowance of 299 people.

[9] Vibrasure. 2021. *1125 O'Brien – Rooftop Equipment Noise Analysis – Memorandum.* Revised June 13. (Included in Appendix 3.4.)

There would be approximately six corporate events per year, and each would last only a few hours and end by 11:30 p.m. (and typically well before), consistent with the provisions of the Menlo Park Municipal Code. These events would be considered "occasional social gatherings." Therefore, such events would be exempt from the general Menlo Park Municipal Code noise limits, provided noise levels from the events would be below 65 dBA at the closest residential or noise-sensitive property.

According to the Vibrasure analysis, the nearest sensitive receptors to the proposed rooftop deck include a building/playground at 1215 O'Brien Drive used by the Wund3rSCHOOL/Open Mind School, approximately 330 feet away, and the single-family residences to the south along Alberni Street, approximately 365 feet away.

Crowd noise from events was estimated by Vibrasure by considering a maximum crowd size of 299. A-weighted sound pressure levels from crowd noise were calculated at distances of 330 and 365 feet to approximate noise levels at the nearby school and residential land uses, respectively. Note that the edge of the building would block, at least partially, the acoustic line of sight from the crowd to the adjacent receptors and serve as a noise barrier.

Table 3.4-16 provides estimated event noise levels, as calculated in the Vibrasure memorandum.

Table 3.4-16. Rooftop Deck Noise Calculations at adjacent Receptors from Events/Crowds[10]

Location	Distance (feet)[a]	Noise Level with Distance Attenuation and Barrier Losses (dBA)
The Open Mind School (building and yard)	330	28[b]
Residences along Alberni Street	365	49[c]

[a] The distance from the closest location of the crowd to the receptor property line.
[b] This noise level includes both distance attenuation and barrier losses from the 16.5-foot-tall roof screen/edge.
[c] This noise level includes both distance attenuation and barrier losses from the roof edge.

As shown in Table 3.4-16, noise levels from occasional roof-deck events could be as high as 49 dBA at the nearest residences along Alberni Street. This noise level is below the 65 dBA threshold for occasional social gatherings. It is also below the daytime and nighttime thresholds outlined in the Menlo Park Municipal Code of 60 dBA and 50 dBA, respectively.

Regarding the Wund3rSCHOOL/Open Mind School, which is typically open until 6:00 p.m., with schoolyard use normally ending at 4:30 p.m., noise levels from the roof deck could be as high as 28 dBA in the schoolyard, with attenuation from a 16.5-foot-tall roof screen that would block the roof deck on the north side of the building. This calculated noise level would meet the standards (i.e., approximately 28 dB lower). Therefore, it would not be perceptible, considering the measured daytime ambient noise level near the school (ST-3 from Table 3.4-5). It is also probable that events would overlap with schoolyard activities for only a short period, considering the timing for use of the schoolyard.

As demonstrated above, calculated noise levels from rooftop events at nearby sensitive land uses would be below daytime and nighttime noise limits established in Chapter 8.06 of the Menlo Park Municipal Code (i.e., 60 dBA and 50 dBA, respectively). In addition, noise levels would meet the 65 dBA noise limit for the occasional social gatherings listed under the exemptions from noise standards in the Menlo Park Municipal Code. Therefore, noise impacts from gatherings or occasional events at the Project roof deck would be ***less than significant***.

[10] Ibid.

Impact NOI-2: Vibration Effects during Construction. The Proposed Project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels (SU)

Construction of the Proposed Project would involve the use of construction equipment that could generate ground-borne vibration. Typical vibration levels associated with heavy-duty construction equipment at a reference distance of 25 feet and other distances are shown in Table 3.4-17. The most vibration-intensive construction equipment expected to be used on the Proposed Project is an auger drill, which would be used only in the building footprints on the Project site. Pile driving is not proposed as part of the Proposed Project. The most vibration-intensive equipment that may be used anywhere on the Project site is an excavator, which produces vibration levels similar to those of a large bulldozer. Note that an auger drill and a large bulldozer generate similar levels of vibration, as shown in Table 3.4-17.

Table 3.4-17. Vibration Source Levels for Construction Equipment

Equipment	PPV at 15 feet	PPV at 25 Feet	PPV at 50 Feet	PPV at 80 Feet	PPV at 100 Feet	PPV at 150 Feet	PPV at 190 Feet
Auger drill	0.191	0.089	0.031	0.016	0.011	0.006	0.004
Large bulldozer[a]	0.191	0.089	0.031	0.016	0.011	0.006	0.004
Loaded trucks[b]	0.164	0.076	0.027	0.013	0.010	0.005	0.004
Small bulldozer[c]	0.006	0.003	0.001	0.001	0.000	0.000	0.000

Source: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report No. 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: October 10, 2021.

[a.] Representative of an excavator and a gradall.

[b.] Representative of semi-trucks and dump trucks.

[c.] Representative of a backhoe and front-end loader.

The evaluation of potential vibration-related effects from construction of the Proposed Project was based on the construction equipment list provided by the Project Sponsor and the estimated construction equipment noise levels contained in both FTA's *Transit Noise and Vibration Impact Assessment* (2006) and Caltrans' *Transportation and Construction Vibration Guidance Manual* (2020). Estimated vibration levels at sensitive uses from construction of the Proposed Project were then compared to the Caltrans damage and annoyance vibration criteria (contained in Tables 3.4-6 and 3.4-7, presented previously) to determine if a vibration impact would be expected. After this analysis was conducted, estimated vibration levels were compared to the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a.

The Project site consists of two parcels. Parcel 1 is immediately north of O'Brien Drive; Parcel 2 is north of Parcel 1 and west of the Wund3rSCHOOL/Open Mind School. Project-specific analyses were conducted to approximate vibration levels at nearby offsite sensitive uses during construction activities proposed for Parcel 1 and Parcel 2. These analyses are included below.

Vibration-Related Damage

Parcel 1 Construction

As stated above, the most vibration-intensive pieces of equipment proposed for use with the Proposed Project are an auger drill, which is expected to be used only within building footprints, and an excavator, which produces vibration levels similar to those of a large bulldozer. These pieces of equipment produce approximately comparable vibration levels. The auger drill would be expected to be used for Parcel 1 building construction but not for Parcel 2 construction (discussed separately below).

During Project construction on Parcel 1, vibration-generating construction equipment may be operated approximately 190 feet from the nearby schoolyard and school building, approximately 15 feet from the nearby commercial and industrial buildings, and approximately 310 feet from the nearest residences. The nearby commercial and school structures in this area would be classified as "modern industrial/commercial buildings," which have a Caltrans vibration-related criterion with a PPV of 0.5 in/sec. Regarding the nearest residences, nearby residential land uses would either be categorized as "new residential structures" or "older residential structures" under the Caltrans Vibration Guidelines for Potential Damage to Structures, which have an applicable damage criterion with a PPV of 0.5 and 0.3 in/sec, respectively (refer to Table 3.4-6, presented previously). For the purposes of this analysis, it is conservatively assumed that all residential structures in this area would all fall under the "older residential structure" category, which has an applicable damage criterion with a PPV of 0.3 in/sec.

As shown in Table 3.4-17, vibration from construction on Parcel 1 could have a PPV of up to 0.004 in/sec should an auger drill (or excavator) operate within 190 feet of the school. This vibration level is well below the applicable damage criterion with a PPV of 0.5 in/sec that would apply to this structure. At the nearest residence, 310 feet away, vibration from Project construction at Parcel 1 could have a PPV of up to 0.002 in/sec. This vibration level is well below the applicable damage criterion with a PPV of 0.3 in/sec that would apply to older residential land uses. Finally, at the adjacent commercial building (approximately 15 feet from the Project site), vibration could have a PPV of up to 0.191 in/sec from use of an auger drill or large bulldozer. This level is also well below the applicable damage criterion (PPV of 0.5 in/sec for modern industrial/commercial buildings).

Based on the assessment presented above, vibration-related damage impacts from Project construction at Parcel 1 on nearby residences, the school, and commercial/industrial buildings would be ***less than significant.***

Parcel 2 Construction

Regarding Parcel 2, which is closer to the Wund3rSCHOOL/Open Mind School, existing structures on Parcel 2 would be demolished and a surface parking lot would be constructed. Vertical construction would not take place on this parcel, and the use of an auger drill would not be required. However, Parcel 2 construction and demolition would still require the use of earthmoving equipment. The most vibration-intensive piece of equipment proposed for use on this parcel is an excavator, which produces vibration levels similar to those of a large bulldozer. Project construction on Parcel 2 could occur approximately 80 feet from the Wund3rSCHOOL/Open Mind School and approximately 50 feet from the nearest commercial or industrial structure. These nearby commercial and school structures would be classified as "modern industrial/commercial buildings," which have a Caltrans vibration-related criterion with a PPV of 0.5 in/sec. The nearest residences to Parcel 2 construction would be more than 540 feet to the southeast, along Kavanaugh Drive. As discussed in the analysis of Parcel 1 construction vibration, nearby residential land uses would be conservatively categorized as "older residential structures," which have an applicable Caltrans damage criterion with a PPV of 0.3 in/sec.

At a distance of 50 feet (the distance to the nearest commercial building), an excavator or large bulldozer could result in a vibration level with a PPV of approximately 0.031 in/sec. This is well below the damage criterion for modern industrial/commercial buildings (PPV of 0.5 in/sec). At the Wund3rSCHOOL/Open Mind School, more than 80 feet from the nearest Parcel 2 construction activity, construction-related vibration would be reduced and have a PPV of 0.016 in/sec, which is well below the vibration-related damage criterion for this type of structure (PPV of 0.5 in/sec). Finally, at the nearest residences (540 feet from Parcel 2 construction areas), vibration levels (from a large bulldozer) would have a PPV of approximately 0.001 in/sec. This level is well below the "older residential buildings" Caltrans damage criterion (PPV of 0.3 in/sec).

Based on the assessment presented above, vibration-related damage impacts from Project construction at Parcel 2 on nearby residences, the school, and commercial/industrial buildings would be ***less than significant.***

Vibration-Related Annoyance

People are typically more sensitive to vibration that occurs during nighttime hours (i.e., when they generally sleep). However, schools and places of work may also be considered sensitive to daytime vibration because it may affect a person's ability to complete work or focus on certain tasks. Note that no nighttime construction is proposed for the Proposed Project. For this analysis, a significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., PPV of 0.1 in/sec) for people inside a nearby residence, school, or commercial land use during daytime or nighttime hours or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.126 in/sec at the nearest workshop, 0.063 in/sec at the nearest office, 0.032 in/sec at the nearest residence during daytime hours, and 0.016 in/sec at the nearest residence during nighttime hours.

Parcel 1 Construction

During Project construction on Parcel 1, vibration-generating construction equipment may be operated approximately 190 feet from the nearby schoolyard and school building, approximately 15 feet from the nearby commercial and industrial buildings, and approximately 310 feet from the nearest residences. As shown in Table 3.4-17, vibration from construction on Parcel 1, which could include the use of an auger drill, could have a PPV of up to 0.004 in/sec at the Wund3rSCHOOL/Open Mind School (190 feet from Parcel 1 construction). This level is below the "strongly perceptible" level (PPV of 0.1 in/sec) and below the ConnectMenlo EIR Mitigation Measure NOISE-2a criterion for office uses, as applied to schools in this analysis (PPV of 0.063 in/sec). Therefore, annoyance-related vibration impacts from Parcel 1 construction on the Wund3rSCHOOL/Open Mind School would be ***less than significant***.

At the nearest residence, 310 feet away, vibration from Project construction at Parcel 1 could have a PPV of up to 0.002 in/sec. This level is well below the "strongly perceptible" level (PPV of 0.1 in/sec) (refer to Table 3.4-7 for the Caltrans vibration-related annoyance criteria). In addition, this level is also below the criterion with a PPV of 0.032 in/sec for residences during daytime hours from ConnectMenlo EIR Mitigation Measure NOISE-2a. Therefore, vibration-related annoyance impacts from Parcel 1 construction on the nearest residential land uses would be ***less than significant***.

Although commercial and office uses are not always considered sensitive to vibration, an evaluation of vibration-related annoyance impacts on the nearby commercial building (approximately 15 feet from the Project site) was also conducted. At a distance of 15 feet, a large bulldozer could produce a PPV of

up to 0.191 in/sec. This level is above the "strongly perceptible" level (PPV of 0.1 in/sec) and the criterion for a workshop (PPV of 0.126 in/sec) from ConnectMenlo EIR Mitigation Measure NOISE-2a. Once construction of the Project begins, it is anticipated that the Project Sponsor would take control of the building at 1185 O'Brien; in that case, the mitigation measure would not be needed. However, because this has not yet occurred, annoyance-related vibration impacts inside a nearby commercial building (1185 O'Brien Drive) from Parcel 1 construction would be considered ***significant***.

Note that most construction activities would take place farther from the offsite uses than the worst-case distances. In addition, construction that takes place along the perimeter of the site would be short term compared to the overall construction duration, considering the size of the main Project site. Furthermore, vibration levels at land uses typically considered to be sensitive to vibration (i.e., schools and residences) would be below all applicable significance criteria. However, because vibration levels might exceed applicable vibration-related annoyance thresholds at the nearby commercial land use adjacent to Parcel 1 construction, annoyance related vibration impacts would be considered ***significant.***

Parcel 2 Construction

Project construction on Parcel 2 could be approximately 80 feet from the school building at the Wund3rSCHOOL/Open Mind School, 15 feet from the schoolyard at the Wund3rSCHOOL/Open Mind School, and approximately 50 feet from the nearest commercial or industrial structure. At the school building at the Wund3rSCHOOL/Open Mind School, located more than 80 feet from the nearest Parcel 2 construction activity, construction-related vibration would be reduced to a PPV of 0.016 in/sec. This vibration level is well below the "strongly perceptible" level (PPV of 0.1 in/sec) and below the ConnectMenlo EIR Mitigation Measure NOISE-2a criterion for office uses, as applied to schools in this analysis (PPV of 0.063 in/sec). Therefore, annoyance-related vibration impacts from Parcel 2 construction on the school building at the Wund3rSCHOOL/Open Mind School would be ***less than significant***.

Regarding the schoolyard at the Wund3rSCHOOL/Open Mind School, located approximately 15 feet from Parcel 2 construction areas, vibration levels could have a PPV of up to 0.191 in/sec. This vibration level is above the "strongly perceptible" level (PPV of 0.1 in/sec) if indoors. However, vibrational effects in outdoor settings are much less noticeable because there is no surrounding building structure to vibrate; therefore, outdoor vibrational effects would be minimal and less than those noticed by people when indoors and exposed to the same vibration level. Furthermore, children at play are typically not sensitive to outside non-play activities or effects. Children in the outdoor area would generally be engaging in recreational activities as opposed to classroom-based educational activities, which are more likely to be disrupted by ground-borne vibration. The ConnectMenlo EIR stated that "Ground-bourne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers" (ConnectMenlo Draft EIR, p.4.10-25, citing the Federal Transit Administration). Consequently, consistent with the approach of the ConnectMenlo Draft EIR, annoyance-related vibration impacts from Parcel 2 construction on the schoolyard at the Wund3rSCHOOL/Open Mind School are determined to be ***less than significant***.

Although commercial and office uses are not always considered sensitive to vibration, an evaluation of vibration-related annoyance impacts on the nearby commercial building (approximately 50 feet from Parcel 2 construction areas) was also conducted. At a distance of 50 feet, a large bulldozer could produce vibration levels with a PPV of up to 0.031 in/sec. This level is below the "strongly perceptible" level (PPV of 0.1 in/sec) and below the criterion for a workshop (PPV of 0.126 in/sec) from ConnectMenlo EIR Mitigation Measure NOISE-2a. Therefore, annoyance-related vibration impacts on the nearby commercial building from Parcel 2 construction would be ***less than significant***.

At the nearest residences (540 feet from Parcel 2 construction areas), vibration from a large bulldozer would have a PPV of approximately 0.001 in/sec. This level is well below the "strongly perceptible" level (PPV of 0.1 in/sec) (refer to Table 3.4-7 for the Caltrans vibration-related annoyance criteria). In addition, this level is also below the criterion for residences during daytime hours from ConnectMenlo EIR Mitigation Measure NOISE-2a (PPV of 0.032 in/sec). Therefore, vibration-related annoyance impacts from Parcel 2 construction on the nearest residential land uses would be ***less than significant***.

Vibration Conclusion

Vibration-related damage impacts would be less than significant. Regarding vibration-related annoyance impacts, construction-related vibration levels from Parcel 1 may exceed the applicable annoyance threshold at the nearest commercial building. Vibration-related annoyance impacts are considered significant, and mitigation would be required.

MITIGATION MEASURES. Implementation of Project Mitigation Measure NOI-2.1 would reduce vibration levels. However, it might not be possible to ensure that vibration levels at all times and at all locations would be reduced to below the applicable annoyance thresholds. Therefore, even with implementation of Project Mitigation Measure NOI-2.1, daytime annoyance-related vibration impacts would remain ***significant and unavoidable.***

NOISE-2a[11,12] *(Modified* ConnectMenlo EIR Mitigation Measure)*. *Construction Vibration Reduction*. To prevent architectural damage citywide as a result of construction-generated vibration:

- Prior to the issuance of a building permit for any development project requiring pile driving or blasting, the Project Sponsor, or designated representative, shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 in/sec, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed the thresholds, alternative methods, such static rollers, non-explosive blasting, and pile drilling, as opposed to pile driving, shall be used to the extent feasible and practical, subject to review and determination by the Community Development Department.

To prevent vibration-induced annoyance as a result of construction-generated vibration:

- Individual projects that involve vibration-intensive construction activities, such as blasting or the use of pile drivers, jack hammers, or vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics or an allied discipline who is able to demonstrate a minimum of 2 years of experience in preparing technical assessments regarding acoustics and/or ground-borne vibration. The study is subject to review and approval from the Community Development Department.

[11] This noise and vibration study for the Proposed Project has been prepared in accordance with ConnectMenlo EIR Mitigation Measure NOISE-2a.

[12] ConnectMenlo EIR Mitigation Measure NOISE-2a has been modified to allow for compliance "to the extent feasible and practical," which would be subject to review and a determination by the Community Development Department.

Vibration impacts on nearby receptors shall not exceed the vibration annoyance levels (in inches per second), as follows:

- Workshop = 0.126
- Office = 0.063
- Residence, daytime (7:00 a.m.–10:00 p.m.) = 0.032
- Residence, nighttime (10:00 p.m. to 7:00 a.m.) = 0.016

If construction-related vibration is determined to be perceptible at vibration-sensitive locations, additional requirements, such as less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., non-explosive blasting; pile drilling, as opposed to pile driving; preclusion for vibratory roller use; use of small or medium-sized bulldozers) to the extent feasible and practical. Vibration reduction measures shall be incorporated into the site development plan as a component of the Proposed Project and applicable building plans, subject to the review and approval from the Community Development Department.

Regarding the building located at 1185 O'Brien Drive, if it is occupied by a non-applicant tenant during construction activities, heavy equipment greater than or equal to 80,000 pounds (e.g., large dozers, graders, tractors, loaders, etc.) shall not be used within 30 feet of the building at 1185 O'Brien. Instead, smaller, rubber-tired equipment weighing less than 80,000 pounds (e.g., bulldozers and similar sized) shall be used within this area during Project construction to reduce vibration effects.

*The modifications to this Connect Menlo EIR mitigation measure include providing a descriptive name; changing the terms "Project applicant/developer" to "Project Sponsor, or a designated representative"; adding clarification that vibration impacts on the office at the construction site do not need to be mitigated; and adding vibration mitigation strategies to reduce impacts at 1185 O'Brien Drive.

Cumulative Impacts

Impact C-NOI-1a: Cumulative Construction Noise. Construction of the Proposed Project would result in a cumulatively considerable contribution to a cumulative construction noise impact. (LTS/M)

Construction noise is a localized impact that reduces as distance from the noise source increases. Intervening features (e.g., buildings) between construction areas and nearby noise-sensitive uses result in additional noise attenuation by providing barriers that break the line of sight between noise-generating equipment and sensitive receptors. These barriers can block sound wave propagation and somewhat reduce noise at a given receiver.

Project construction could occur relatively close to the construction of other cumulative projects. As a result, construction noise from the Proposed Project could combine with noise from other projects to result in individual receivers experiencing greater overall construction noise levels. Despite the potential for overlapping construction, the ConnectMenlo EIR determined that construction noise from future projects in Menlo Park could result in construction-related noise that would exceed the City's noise limits, but that impact would not be significant with implementation of ConnectMenlo EIR Mitigation Measure NOISE-1c (or similar), which would be required for all projects and help ensure that construction activity associated

with future projects would comply with the Menlo Park Municipal Code and regulations pertaining to construction noise. As such, although construction noise from some individual projects (including the Proposed Project) may not be reduced to less-than-significant levels with implementation of this mitigation measure; the cumulative impact would be ***less than cumulatively considerable with mitigation***.

Impact C-NOI-1b: Cumulative Operational Noise. Operation of the Proposed Project would result in a cumulatively considerable contribution to a cumulative construction noise impact before mitigation. (LTS/M)

Traffic

To determine potential cumulative noise impacts in the area as a result of the Proposed Project, vehicular traffic volumes from the baseline (no-Project) scenario are compared to the cumulative (with-Project) scenario. For vehicular traffic noise impacts in areas where the baseline and resulting noise levels (under cumulative conditions) do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant cumulative traffic noise increase. In areas where the existing or resulting noise levels (under cumulative conditions) do exceed the "normally acceptable" level, based on the land use compatibility chart, a 3 dB or larger increase from existing to cumulative plus-Project conditions is considered a significant cumulative traffic noise increase. Estimates of traffic volumes for baseline (no-Project) and cumulative (plus-Project) conditions, provided by Hexagon Transportation Consultants, were based on the ratio analysis methodology described previously. For example, a doubling of traffic (e.g., from 100 to 200 vehicles on a given segment) would result in a 3 dB change in the noise level.

The ConnectMenlo EIR found that transportation-related noise impacts would not be significant because a substantial permanent increase affecting noise-sensitive land uses would not occur. The Project-specific analysis, based on the ratio analysis results for roadway segments, four roadway segments would experience at least an approximate doubling of traffic volumes from background to cumulative plus-Project conditions. Cumulative noise increases from baseline to cumulative plus-Project conditions would be in the range of 3 to approximately 6 dB for these segments. Because an increase of more than 3 dB would occur along some roadway segments, from baseline to cumulative plus-Project conditions, cumulative traffic noise impacts would be considered significant (refer to Table 3.4-18 for the results of the cumulative traffic noise analysis).

As shown in Table 3.4-18, traffic from cumulative development with the Proposed Project could increase noise by up to approximately 6 dB, although other development would be responsible for much of that noise increase. The Project contribution to all of the aforementioned increases can be determined by comparing cumulative no-Project conditions to cumulative plus-Project conditions. As shown in Table 3.4-18, the largest Project-related traffic noise increase from cumulative no-Project to cumulative plus-Project conditions (i.e., the Project-only contribution to a cumulative impact) would be approximately 0.1 dB, far below the 3 dB change necessary for a change in noise to be "barely perceptible." Most evaluated segments would have between a 0 and 0.1 dB increase in noise from cumulative no-Project to cumulative plus-Project conditions. Because Project-related increases in the cumulative condition would be less than 3 dB (and sometimes much less than 3 dB) for all analyzed segments (noting that a 3 dB change is considered to be barely perceptible), the Project contribution to significant cumulative traffic noise impacts would ***less than cumulatively considerable*** on all roadway segments.

Table 3.4-18. Traffic Volume Increases Associated with Cumulative and Cumulative plus-Project Conditions

Roadway Segment	Average Daily Traffic Volumes			Traffic Increase (%) from Baseline to Cumulative plus Project	Cumulative Noise Increase (Baseline vs. Cumulative plus Project)	Percentage Traffic Increase from Cumulative to Cumulative plus Project	Noise Increase (dB) from Project Contribution (Cumulative vs. Cumulative plus Project)
	Baseline (2019) ADT	Cumulative (no-Project) ADT	Cumulative plus-Project ADT				
Kavanaugh Drive east of O'Brien Drive	2,410	8,910	9,005	274%	5.7	1.1%	0.1
Kavanaugh Drive west of University Avenue	2,385	4,675	4,730	98%	3.0	1.2%	0.1
O'Brien Drive north of Kavanaugh Drive	5,700	12,515	12,835	125%	3.5	2.6%	0.1
O'Brien Drive west of University Avenue	3,890	11,180	11,345	192%	4.6	1.5%	0.1

Mechanical Equipment Noise

Because multiple projects may be located close to one another, it is possible that noise from heating and cooling for the Proposed Project could combine with noise from heating and cooling for nearby projects and cause a cumulative noise impact at nearby noise-sensitive land uses. Because exact details regarding the equipment for future nearby projects are not known, it is possible that noise could combine and applicable noise thresholds could be exceeded. Cumulative impacts from mechanical equipment noise would conservatively be considered significant. Therefore, consistent with the conclusion in the ConnectMenlo EIR, the Proposed Project in combination with other past, present, and reasonably foreseeable future projects would result in a significant cumulative impact with respect to operational equipment noise. With implementation of ConnectMenlo EIR Mitigation Measure NOISE-1b and Project Mitigation Measure NOI-1.2, Project-related mechanical equipment noise levels would not exceed the applicable local thresholds.

Operational noise from mechanical equipment is a localized impact that reduces as distance from the noise source increases. In addition, intervening features (e.g., buildings) between the Project mechanical equipment and nearby noise-sensitive land uses result in additional noise attenuation by providing barriers that break the line of sight between noise-generating equipment and sensitive receptors. These barriers can block sound wave propagation and somewhat reduce noise at a given receiver. Based on the location of the Project, cumulative Projects, and the nearest noise-sensitive land uses, Project-specific mechanical equipment noise (which would be reduced to a less-than-significant level with mitigation) would not be expected to combine with mechanical equipment noise from cumulative projects to expose the same receptors to increased overall mechanical equipment noise. As a result, the contribution of the Proposed Project to the significant cumulative mechanical equipment noise impact would be ***less than cumulatively considerable with mitigation.***

Emergency Generator Noise

Emergency generators included in the development of future buildings for cumulative projects could result in the generation of audible noise during testing. Emergency generators are tested intermittently; noise from generators is exempted during actual emergencies. Although specific details regarding the emergency generators proposed for nearby future projects are not known at this time, it is very unlikely that the testing of the emergency generator for the Proposed Project would occur concurrently with the testing of a generator at a nearby project. Even if testing were to occur simultaneously, which is unlikely, it is not likely that the generators would be close enough to one another for the noise to combine at a given individual receptor. Therefore, cumulative noise impacts related to emergency generator testing would be ***less than significant***.

Impact C-NOI-2: Cumulative Vibration Effects. The Proposed Project in combination with other foreseeable projects would not expose persons to or generate excessive ground-borne vibration or ground-borne noise levels (LTS)

With regard to potential building damage or annoyance from construction vibration, the evaluation of the potential for vibration-related impacts to occur is based on PPV, which is a measure of peak vibration levels. Because PPV is a measure of the instantaneous peak vibration level rather than an average, such as the vibration velocity level, worst-case ground-borne vibration levels in PPV from construction are generally determined by whichever individual piece of equipment generates the highest (peak) vibration levels at the affected building(s) or sensitive land uses. Peak vibration from multiple construction sites, even if they are close to one another, would not be expected to combine to

raise the maximum PPV level. For these reasons, there would be no combined vibration-related impacts from multiple construction projects occurring nearby and concurrently, beyond the levels that would be assessed as direct impacts from each site. Cumulative vibration impacts related to annoyance and damage would be ***less than significant***.

Noise Analysis of Waterline Upgrades

As noted in Chapter 2, *Project Description*, and the 1350 Adams Court EIR,[13] the existing water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may develop before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline will be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

Waterline Construction Noise

According to the EIR for the 1350 Adams Court project, activities associated with off-site waterlines construction would occur during five subphases: demolition (25 days), utility installation (15 days), grading (9 days), pavement installation (2 days), and final pavement and striping (2 days). The phases are expected to overlap with one another, resulting in a total construction period of approximately 2 to 3 months. These periods would be shorter if just the O'Brien Drive portion of the waterline is required to just serve the Proposed Project. As discussed above in the analysis of noise from construction at the Project site, between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday, construction noise is exempt from quantitative noise thresholds, except for the limit on powered equipment of 85 dBA at a distance of 50 feet. The proposed equipment use for the waterline construction would be similar or the same types of equipment proposed for Project construction. As shown in Tables 3.4-10 and 3.4-12 from the Adams Court EIR, all equipment proposed for waterline construction would be in compliance with the 85 dBA limit for individual powered equipment.

The EIR for the 1350 Adams Court Project found that impacts related to noise exceedances from individual pieces of equipment for waterlines construction would be ***less than significant***.

According to the EIR for the 1350 Adams Court project, in addition to the individual equipment noise assessment, noise generated during daytime hours was compared to the ambient noise level at nearby noise-sensitive land uses to determine if a 10 dB increase above the ambient level, perceived as a doubling of loudness, would be expected to occur. Waterline construction would occur only during the standard daytime hours of 8:00 a.m. to 6:00 p.m. on weekdays, times when people are generally less sensitive to noise.

The modeling of combined noise from the waterlines construction was based on assumptions provided by the 1350 Adams Court Project Sponsor. A screening analysis was conducted to determine which subphases of waterline construction would result in the greatest noise levels. It was determined that noise

[13] City of Menlo Park. 2022. *1350 Adams Court EIR*. Section 3.4 Noise. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

from the utility installation subphase would be the greatest. Modeling of the combined noise level was based on the assumption that the three loudest pieces of equipment would operate simultaneously and close to one another. This is a conservative assumption because roadways where waterline construction would occur would remain open to traffic during construction, and it is unlikely that three pieces of equipment would be operating at the same time and at the same location. The loudest pieces of equipment proposed for use during the utility installation subphase are a vacuum extractor (vac-truck), a concrete saw, and a jackhammer; it was assumed that they would operate concurrently, as a reasonable worst-case assessment. Refer to Table 3.4-19, below, for the estimated noise levels from utility installation (considered the noisiest part of waterline construction) at increasing distances.

Table 3.4-19. Modeled Construction Noise Levels for Utility Installation, Waterline Construction (Table 3.4-12 from the 1350 Adams Court Project EIR)

Source Data	Maximum Sound Level (L_{max} dBA)	Utilization Factor	Hourly Sound Level (L_{eq} dBA)
Construction condition: demolition/utility relocation			
Source 1: Vac-Truck – sound level (dBA) at 50 feet =	85.0	40%	81.0
Source 2: Jack Hammer – sound level (dBA) at 50 feet =	90.0	20%	83.0
Source 3: Concrete Saw – sound level (dBA) at 50 feet =	89.0	20%	82.0
Calculated Data			
All sources combined – L_{max} sound level (dBA) at 50 feet =			93.2
All sources combined – L_{eq} sound level (dBA) at 50 feet =			86.9

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	93.2	86.9
65	**-2**	**91.0**	**84.6**
100	-6	87.2	80.8
200	-12	81.2	74.8
210	**-12**	**80.8**	**74.4**
250	-14	79.3	72.9
285	**-15**	**78.1**	**71.7**
300	-16	77.7	71.3
400	-18	75.2	68.8
500	-20	73.2	66.9

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: October 18, 2021.
Note: Geometric attenuation based on 6 dB per doubling of distance. This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers that may reduce sound levels further.
Bold denotes the distances and sound levels identified in the analysis.

Utility installations associated with the waterline construction could occur as close as 65 feet from the façade of the Wund3rSCHOOL/Open Mind School, which is west of O'Brien Drive. Construction would occur approximately 165 feet from the school's outdoor use areas (which is located on the west of the school building); noise in outdoor areas would be reduced by the intervening school building. The 1350 Adams Court project EIR assessment focused on the worst-case noise levels that could occur at the school building, which is 65 feet away.

As shown in Table 3.4-19 above, the 1350 Adams Court EIR found that construction activities associated with the waterlines could result in noise levels of up to 84.6 dBA L_{eq} at the school. The ambient noise level near the Wund3rSCHOOL/Open Mind School, represented by ST-3, was measured at 55.8 dBA L_{eq}, as shown in Table 3.4-5. Therefore, a construction noise level of 84.6 dBA L_{eq} would result in more than a 10 dB increase in noise (i.e., 28.8 dB) compared to the ambient level. However, this increase would occur only temporarily and intermittently, depending on the precise construction activity taking place on a given day and the distance between individual receptors and construction work. It was estimated that work along the street would progress at a rate of 100 to 180 linear feet per day; the 1350 Adams Court EIR concluded therefore, that the loudest construction noise experienced by an individual receptor would be typically short term, relative to standard stationary construction activities. Because equipment would be moving linearly at a minimum of 100 feet per day, equipment would not be operating at the worst-case distance of 65 feet from the school façade for more than 1 to 2 days.

The nearest residential land uses are approximately 210 feet west of the Willow Road and O'Brien Drive intersection and 285 feet south of O'Brien Drive (along Alberni Street). These distances were analyzed by the 1350 Adams Court EIR, as shown in Table 3.4-19, above; in Table 3.4-12 of the 1350 Adams Court EIR; and in the discussion that follows.

- At 210 feet, construction would produce a noise level of approximately 74.4 dBA L_{eq}. The measured noise level at this location, represented by ST-5, was approximately 59.5 dBA L_{eq}. The L_{min} and L_{max} recorded during the measurement were 45.4 dBA and 72.0 dBA, respectively. Therefore, a construction noise level of 74.4 dBA L_{eq} would increase the ambient noise level by 14.9 dB at the residences west of the Willow Road and O'Brien Drive intersection.

- At 285 feet, construction would produce a noise level of approximately 71.7 dBA L_{eq}. The measured noise level at this location, represented by LT-3, was approximately 62 dBA L_{dn}, The lowest daytime recorded noise level was 57 dBA L_{eq}, and the highest daytime recorded noise level was 62 dBA L_{eq}. Therefore, a construction noise level of 71.7 dBA L_{eq} could increase the ambient noise level by 14.8 dB at the residences south of O'Brien Drive.

Additional noise-sensitive land uses may be located in the general vicinity of waterlines construction; however, no noise-sensitive land uses are closer than those indicated above.

Although noise increases of approximately 15 dB at the nearest residences would exceed the 10 dB increase threshold, the 1350 Adams Court EIR determined that this increase, although substantial, would occur only temporarily and intermittently. As noted above, the linear nature of the construction work would ensure that the worst-case distances of 210 and 285 feet would occur for only 1 or 2 days. Therefore, the 1350 Adams Court EIR concluded that because of the atypically temporary nature of the construction work, the noise increases, which would be limited to daytime hours, would not be considered substantial at the nearest residences. In addition, almost all nearby residential land uses would be partially shielded from construction noise by intervening buildings. This shielding, which was not quantitatively included in the noise levels in Table 3.4-19 above, would reduce construction noise levels at nearby residences and other sensitive uses because there would not be a direct line of sight to the land uses.

The EIR for the 1350 Adams Court Project concluded that impacts would be less than significant because the total time for construction of the upgraded waterlines would be relatively short, effects on individual receptors would occur for much shorter periods of time because of the linear nature of the construction work, that increases of more than 10 dB (above the existing ambient noise levels at sensitive uses) would be atypically short term and intermittent, and that noise from individual pieces of construction equipment would not exceed the threshold of 85 dBA at 50 feet. Consequently, the EIR for the 1350 Adams Court Project found that impacts related to any temporary increase in noise from waterline construction would be ***less than significant***.

Vibration-Related Damage during Construction of the Waterline

According to the EIR for the 1350 Adams Court project, vibration resulting from the waterlines construction would also occur. The most vibration-intensive piece of equipment proposed for the waterlines construction is an excavator. An excavator would produce vibration levels similar to those of a large bulldozer, which can produce vibration of 0.089 in/sec at 25 feet, as shown in Table 3.4-2. The Wund3rSCHOOL/Open Mind School and the Eternal Life Church would be the closest sensitive land uses to the waterlines construction. The school and the church would both be approximately 65 feet from the construction areas. At that distance, the vibration level from an excavator would produce vibration of approximately 0.021 in/sec, which would be substantially less than the applicable damage threshold for a modern building (i.e., PPV of 0.5 in/sec for "modern industrial buildings"), such as the Wund3rSCHOOL/Open Mind School or the Eternal Life Church. Waterline construction could occur as close as 210 feet from the nearest residences south of O'Brien Drive. At that distance, vibration levels from an excavator would produce vibration of 0.004 in/sec. Homes in the area are best characterized as "older residential structures," as defined in the Caltrans damage criteria. The Caltrans vibration-induced damage threshold for this type of structure is 0.3 in/sec. Estimated vibration levels from the excavator used to construct the waterlines would be substantially below that threshold. The EIR for the 1350 Adams Court Project found that vibration-related damage impacts from the waterlines construction on the Wund3rSCHOOL/Open Mind School, nearby residences and commercial/industrial buildings would be ***less than significant.***

Vibration-Related Annoyance during Construction of the Waterline

According to the EIR for the 1350 Adams Court project, the Wund3rSCHOOL/Open Mind School and the Eternal Life Church would be the closest sensitive land uses to waterline construction (65 feet from the construction area). At that distance, the vibration level from an excavator would produce vibration of approximately 0.021 in/sec, which is below the "distinctly perceptible" and "strongly perceptible" Caltrans criteria for annoyance of 0.04 in/sec and 0.1 in/sec, respectively. At the residences south of O'Brien Drive, vibration levels from a large excavator could produce vibration of 0.004 in/sec. As with the school and church, estimated vibration levels would be lower than the Caltrans "distinctly perceptible" and "strongly perceptible" criteria of 0.04 in/sec and 0.1 in/sec, respectively.

At all sensitive land uses, the estimated vibration levels would also be below the allowable vibration levels described in Mitigation Measure NOISE-2a from the ConnectMenlo EIR for an office (0.063 in/sec), a workshop (0.126 in/sec), and a residence during daytime and nighttime hours (0.032 in/sec, 0.016 in/sec, respectively). The EIR for the 1350 Adams Court Project found that vibration-related annoyance impacts from waterline construction on nearby residences, the school, and commercial/industrial buildings would be ***less than significant.***

3.5 Population and Housing

This section provides background information regarding existing and projected population, employment, and housing conditions in Menlo Park. In addition, it estimates changes to the city's demographics that would result from the Proposed Project. The analysis is based on population, employment, and housing data published by the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC),[1] incorporating buildout assumed under the General Plan and M-2 Area Zoning Update (ConnectMenlo) as well as demographic information from the Demographic Research Unit of the California Department of Finance (DOF), the U.S. Census Bureau, and the 2015–2023 Housing Element of the City of Menlo Park (City) General Plan. The analysis also incorporates information from the Housing Needs Analysis (HNA) for the Proposed Project prepared by Keyser Marston Associates (Appendix 3.5).[2] Although not required by the California Environmental Quality Act (CEQA), the HNA was prepared pursuant to the terms of the settlement agreement between the cities of Menlo Park and East Palo Alto (refer to Chapters 1 and 3 for additional discussion). The information in the HNA is used to provide context for the evaluation of potential impacts of the Proposed Project related to population and housing as well as information to decision-makers during the entitlement process.

The purpose of this section is to characterize the potential for Project-induced population, housing, and employment changes to trigger physical environmental effects; these potential environmental impacts are examined in the Initial Study (e.g., Air Quality) prepared for the Project (Appendix 1-1) and in other sections of this environmental impact report (EIR) (e.g., Section 3.1, *Transportation and Traffic,* and Section 3.4, *Noise*).

There were no comments pertaining to population, housing, or employment received in response to the Notice of Preparation (Appendix 1-2).

Existing Conditions

Environmental Setting

The following discussion provides a basic foundation for understanding population and housing issues within Menlo Park as well as the surrounding region. The information presented in this section is based on data, research, and growth projections drawn from census data, the HNA prepared for the Proposed Project, and ABAG's *Plan Bay Area Projections 2040* (Projections 2040). Projections 2040 is the most recent of ABAG's statistical compendia on demographic, economic, and land use changes in each local Bay Area jurisdiction through 2040. As such, the data from Projections 2040 is used in this analysis.

Population

Menlo Park is in the southern portion of San Mateo County and bounded by the San Francisco Bay to the north, East Palo Alto to the east, Palo Alto to the east and south, Woodside and Portola Valley to the southwest, and Redwood City to the west. The city encompasses approximately 19 square miles,

[1] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

[2] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment, 1125 O'Brien Drive Project*. December.

including nearly 12 square miles of San Francisco Bay and wetlands. As of January 1, 2021, the California DOF estimates the city's jurisdictional population was 34,825. [3] Table 3.5-1 presents population estimates and projections for 2020 through 2040[4] pertaining to Menlo Park (sphere of influence),[5] San Mateo County, and the Bay Area (i.e., Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties). The data indicate that population growth, measured as a percentage increase from 2020 to 2040, in Menlo Park (23.3 percent) will be greater than that of the county and the Bay Area as a whole (about 15.0 and 21.9 percent, respectively).[6]

Table 3.5-1. Population Trends in Menlo Park, San Mateo County, and the Bay Area, 2020–2040

	2020	2030	2040	Growth 2020–2040
Menlo Park	44,530	52,865	54,920	10,390 (23.3 %)
San Mateo County	796,925	853,260	916,590	119,665 (15.0 %)
Bay Area	7,920,230	8,689,440	9,652,950	1,732,720 (21.9 %)

Source: ABAG and MTC, 2018.

Housing

According to the California DOF, the estimated number of housing units in the city (jurisdictional boundary) as of January 1, 2021, was 14,124, with an average of approximately 2.6 persons per household (pph) and a vacancy rate of 7.4 percent.[7] Table 3.5-2 presents ABAG projections for households in the Bay Area, the county, and the city between 2020 and 2040. According to ABAG, the number of households in the county is projected to grow from approximately 284,260 in 2020 to 317,965 in 2040, an increase of approximately 11.9 percent. The number of households in the city is

[3] California Department of Finance. 2021. *E-5 Population and Housing Estimates – Organized by Geography*. May. Available: https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed February 17, 2022.

[4] Full buildout of the Proposed Project is expected to occur in 2023. However, consistent with full buildout of ConnectMenlo by 2040, this analysis compares the Proposed Project with the projections for 2040. In addition, Plan Bay Area Projections 2040 (the most recent projections promulgated by ABAG) assume that the majority of the ConnectMenlo growth would occur between 2035 and 2040. Therefore, to account for all growth under ConnectMenlo in the ABAG projections, the horizon year of 2040 is used in this analysis.

[5] Several additional unincorporated areas adjoining the city are recognized as being within the city's sphere of influence and, therefore, included in the City General Plan. In California, sphere of influence has a legal meaning (i.e., a plan for the probable physical boundaries and service area of a local agency). Spheres of influence at California local agencies are regulated by Local Agency Formation Commissions that recognize the unincorporated communities that would be best and most likely served by the city agencies. Hence, the spheres of influence represent areas with the greatest potential for annexation by a city. In most cases, ABAG provides more detailed demographic and employment projections for a city's sphere of influence than for small cities such as Menlo Park. Consequently, unless otherwise specifically noted, all city data represent the city sphere of influence because only limited demographic data are available for the city's incorporated area. The sphere of influence designation for the city includes unincorporated West Menlo Park, Stanford Weekend Acres, Menlo Oaks, as well as the Stanford Linear Accelerator Center. With the exception of the Stanford Linear Accelerator Center, these areas are zoned for residential uses and are substantially developed. All ABAG projections in this section for the city include the sphere of influence.

[6] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

[7] California Department of Finance. 2021. *E-5 Population and Housing Estimates – Organized by Geography*. May. Available: https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed: February 17, 2022.

Table 3.5-2. Household Trends in Menlo Park, San Mateo County, and the Bay Area, 2020–2040

	2020	2030	2040	Growth 2020–2040
Menlo Park	15,390	17,265	17,680	2,290 (14.9%)
San Mateo County	284,260	302,520	317,965	33,705 (11.9%)
Bay Area	2,881,965	3,142,015	3,426,700	544,735 (18.9%)

Source: ABAG and MTC, 2018.

projected to grow from approximately 15,390 in 2020 to 17,680 in 2040, an increase of approximately 14.9 percent. Overall, the household growth rate in the city (14.9 percent) is expected to be greater than the household growth rate for the county (11.9 percent) but less than that of the Bay Area as a whole (18.9 percent).[8]

Housing prices in the Bay Area are among the highest in the country, and San Mateo County has several of the most expensive residential communities in the Bay Area. Menlo Park is one of the more desirable communities in the county, and as a result, home prices exceed the county average home price. The median single-family home sale price in Menlo Park in January 2022 was $3.4 million (an increase of 35.9 percent compared to January 2021 when the median sale price for a single-family home in Menlo Park was $2.9 million).[9] This represents a 57 percent increase since 2012 when the median single-family home price in Menlo Park was approximately $1.47 million.[10]

Employment

The employment profile for an area provides an indication of the composition of an area's economy as well as present and future demand for employees. Employment growth is an important driver of housing demand, both at the local level and regionally. Employment growth over the past several years has most likely contributed to significant upward pressure on the housing market, as evidenced in rent and price increases.

The county is a productive economic area, with technology, bioscience, and service industries being the leading sectors. According to the HNA, the county averages approximately 1.91 employees per worker household.[11] Approximately 66 percent of Menlo Park residents 16 years and older were in the work force in 2020, slightly lower than the county rate (69 percent) but higher than the state rate (63 percent). Most city residents who are in the workforce are in management, business, science, or art-related occupations (69 percent), which is significantly higher than the county rate (47 percent) and the state rate (38 percent). The next most common employment categories for the city are sales and office occupations (14 percent), followed by service occupations (11 percent).[12]

[8] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

[9] Redfin. 2022. *Menlo Park Housing Market*. Available: https://www.redfin.com/city/11961/CA/Menlo-Park/housing-market. Accessed: February 17, 2022.

[10] City of Menlo Park. 2014. *Housing Element*. April 14. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/Housing-Element/2015-2023-Housing-Element. Accessed: February 21, 2023.

[11] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment 1125 O'Brien Drive Project*. December.

[12] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

The county was negatively affected by the housing mortgage/financial crisis of the late 2000s. However, between 2010 and 2019, approximately 591,000 jobs were added in San Mateo, Santa Clara, and San Francisco Counties. More than half of the total job growth occurred in high-wage sectors, which are generally defined as professions where average annual employee compensation is above $100,000 (as of 2016). Over the past decade, high-wage industries posted an annual job growth rate of 4.6 percent, versus 3.4 percent for all industries. The job growth rate for the longer period, from the peak of the previous boom in 2000 until 2019, is less because of the significant job losses between 2000 and 2004, which offset the more recent job growth. The 2020 economic recession, caused by the coronavirus pandemic, eliminated a portion of the jobs added over the past decade. Although data for the full year are not yet available, data for the first half of 2020 show a significant decline in total employment in the three-county area. In the second quarter of 2020, total employment in the three-county area declined by 12 percent in all sectors and 3 percent in high-wage sectors compared with the prior quarter.[13]

Because the full effects of the COVID-19 pandemic are currently unknown, this analysis uses the most recent projection forecasts. ABAG's Plan Bay Area Projections 2040 predicts steady employment growth between 2020 and 2040 for the city, county, and Bay Area as a whole. Table 3.5-3, below, presents ABAG employment projections, which are used throughout the analysis presented below.

As indicated in Table 3.5-3, the ABAG projections for 2020 to 2040 show a steady increase in employment in the Bay Area (13.6 percent). Both the county (18.2 percent) and the city (16.6 percent) show higher projected employment rates than the Bay Area in general.

Table 3.5-3. Employment Trends in Menlo Park, San Mateo County, and the Bay Area, 2020–2040 (Total Number of Jobs)

	2020	2030	2040	Growth 2020-2040
Menlo Park	36,410	37,195	42,475	6,065 (16.6%)
San Mateo County	399,415	423,005	472,340	72,770 (18.2%)
Bay Area	4,136,190	4,405,125	4,698,375	562,185 (13.6%)

Source: ABAG and MTC, 2018.
Note: ABAG projections for 2040 incorporate full buildout of ConnectMenlo.

Table 3.5-4, below, compares the projected number of employed residents in the city with the projected number of jobs available in the city. According to ABAG projections, the number of employed residents in the city is currently 62.4 percent of the number of jobs in the city. In the next 20 years, the number of employed residents is expected to remain relatively constant, decreasing only slightly to 61.7 percent.[14]

Table 3.5-4. Comparison of Number of Jobs to Employed Residents in Menlo Park, 2020–2040

	2020	2040
Jobs [a]	36,410	42,475
Employed Residents [a]	22,735	26,205
Percent Employed Residents to Total Number of Jobs	62.4%	61.7%

Source: ABAG and MTC, 2018.
[a] The numbers of jobs and employed residents are based on the city's sphere of influence, which also includes unincorporated areas of San Mateo County.

[13] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment 1125 O'Brien Drive Project*. December.
[14] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040.* November.

The average median income (AMI) in San Mateo County for a family of four was approximately $149,600 as of 2021.[15] Because the city's housing prices are high, many people who work in the city cannot afford to live in the city. Consequently, people who work in the community often must commute long distances. The difference between what the workforce and what the community can pay for housing, based on household income and the prices for homes in the community, is referred to as an affordability gap.[16] In addition, housing production has not kept pace with job growth in San Mateo County and adjacent counties. The ratio of jobs to housing units steadily increased in San Mateo, Santa Clara and San Francisco Counties over the prior decade. The jobs/housing ratio of 1.75 in 2019 neared the peak of the previous boom cycle, an imbalance that has undoubtedly contributed to increasing prices and rents. In 2020, the jobs/housing ratio declined as a result of job losses associated with the coronavirus pandemic.[17]

According to the U.S. Census Bureau 2015–2019 American Community Survey (ACS), 5.9 percent of those who currently work in Menlo Park also live in Menlo Park. The remaining 94.1 percent of the workforce commutes from outside the city. The existing percentage of workers commuting in from other jurisdictions is attributable to a number of factors, including the supply of housing relative to the number of jobs and the high cost of housing in Menlo Park. Nevertheless, 5.9 percent does provide a benchmark for the propensity of Menlo Park workers who seek and find housing in the city. However, in any metropolitan region, such as the Bay Area, numerous individual factors influence how workers, in general, select the neighborhoods or communities in which they live, beyond factors such as basic housing supply, price/rent, and proximity to work. These factors include, among many, weather, family, culture, general quality of life issues, quality of schools, and public safety.[18]

The Project site is within the existing Menlo Park Labs campus, which is currently occupied by life science and biotech labs with approximately 143 employees onsite. The percentage of current Menlo Park Labs campus workers who live in Menlo Park is estimated at 3.8 percent, significantly below the overall average of 5.9 percent for those who both live and work in Menlo Park, per the U.S. Census Bureau. This variance in commute patterns very likely reflects the accessibility of the Menlo Park Labs campus location. The Dumbarton Bridge and US 101, as well as shuttle services to San Francisco, Caltrain, and Bay Area Rapid Transit (BART), make it more conducive to commuting for the regional labor pool. Furthermore, many factors influence how people select a place to live, as discussed above.

Regulatory Setting

State

State Housing Element Law

The Regional Housing Needs Allocation (RHNA) is a process established under the State Housing Element Law that requires cities in California to plan for future development of new housing units to meet their share of regional housing needs. Housing needs for each region in the state are determined by the State Department of Housing and Community Development and submitted to Councils of

[15] San Mateo County. 2021. *2021 San Mateo County Income Limits, as Determined by HUD, State of CA HCD, and County of San Mateo.* Available: https://www.smcgov.org/media/30286/download?inline=. Accessed: February 28, 2022.

[16] City of Menlo Park. 2014. *City of Menlo Park General Plan, Housing Element.* April 1.

[17] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment 1125 O'Brien Drive Project*. December.

[18] Ibid.

Government for allocation to local jurisdictions. ABAG is ultimately responsible for determining the share of the regional housing need to be met by each city in the Bay Area. State Housing Element Law has established three housing affordability categories. The categories are based on the region's median income and take into account household sizes ranging from one to six people. The three affordability categories used by ABAG in allocating regional housing needs are:

- Very Low: 0 to 50 percent of the area's median income
- Low: 51 to 80 percent of the area's median income
- Moderate: 81 to 120 percent of the area's median income

The current RHNA, adopted in December 2021 and updated in November 2022, identifies housing needs for the 2023 to 2031 planning period. As shown in Table 3.5-5, below, ABAG determined that 2,946 units (defined by income category) is Menlo Park's fair share of the regional housing need for the 2023 to 2031 period.[19] After the adoption of the 2023 to 2031 RHNA, which incorporates the Plan Bay Area 2050, the City updated the Menlo Park Housing Element for the current RHNA cycle. The 2023 to 2031 Housing Element was approved by the City Council on January 31, 2023, and submitted to the State Department of Housing and Community Development on February 1, 2023.[20]

Table 3.5-5. ABAG Regional Housing Need Allocation for 2023–2031

Income Level	Menlo Park Housing Need	Regional Housing Need
Very Low	740	114,442
Low	426	65,892
Moderate	496	72,712
Subtotal of Affordable Units	*1,662*	*253,046*
Above Moderate[a]	1,284	188,130
Total	**2,946**	**441,176**

Source: ABAG, 2021.

Notes:

[a] Above Moderate: Households with incomes greater than 120 percent of county median family income. ABAG does not use the Above Moderate category. This category is included in the RHNA and the analysis below to provide decision-makers with more information regarding housing impacts for a broad spectrum of the new worker households associated with the Proposed Project.

Sustainable Communities Strategy and Senate Bill 375

Senate Bill (SB) 375, adopted in 2008, requires preparation of a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP) for the Bay Area. Plan Bay Area, the first SCS for the region, was jointly approved in July 2013 by ABAG and the MTC. Plan Bay Area 2040, an updated SCS for

[19] Association of Bay Area Governments. 2022. *Final Regional Housing Need Plan for the San Francisco Bay Area: 2023–2031*. May. Available: https://abag.ca.gov/sites/default/files/documents/2022-12/Final%20RHNA%20Methodology%20Report%202023-2031_update_11-22.pdf. Accessed: January 18, 2023.

[20] City of Menlo Park Community Development. 2023. *Staff Report Number 23-006-PC and 23-001-HC*. January 12, 2023. Available: https://menlopark.gov/files/sharedassets/public/agendas-and-minutes/planning-commission/2023-meetings/agendas/20230112-housing-and-planning-commissions-agenda-packet.pdf. Accessed: January 11, 2023.

the region, was jointly approved in July 2017 by ABAG and MTC. Plan Bay Area 2040 was the strategic update to the original Plan Bay Area approved in 2013, which represented a transportation and land use/housing strategy for how the Bay Area will address its transportation mobility and accessibility needs, land development issues, and greenhouse gas emissions reduction requirements through 2040. Plan Bay Area 2040 builds on earlier work to develop an efficient transportation network, provide more housing choices, and grow in a financially and environmentally responsible way. SB 375 requires the RHNA to be consistent with the SCS and establishes an 8-year cycle for the RHNA. The 2014 to 2022 RHNA has been incorporated into Plan Bay Area and Plan Bay Area 2040.

Plan Bay Area 2050 was adopted in October 2021 and focuses on four key issues: the economy, the environment, housing, and transportation. This new regional plan outlines strategies for growth and investment through 2050 while simultaneously striving to meet or exceed federal and state requirements.[21] The 2023 to 2031 RHNA has been incorporated into Plan Bay Area 2050.

Regional

Jobs Housing Connection Strategy Methodology for 2013 to 2040, Plan Bay Area

The Jobs Housing Connection Strategy was adopted by ABAG and MTC as part of Plan Bay Area in July 2013. The Jobs Housing Connection Strategy reflects the preferred land use pattern, which was selected from a series of land use alternatives and based on input from the public, cities and counties, and transportation agencies. The preferred scenario aims to concentrate growth near transit-served employment centers in the inner Bay Area. For the SCS, the methodology used for assigning household growth to local jurisdictions considered multiple factors, including housing development capacity, base housing unit growth, vehicle miles traveled/transit service adjustments, as well as other growth factors.

Local

Menlo Park General Plan

All California cities and counties are required to include a Housing Element in their general plans that establishes housing objectives, policies, and programs in response to community housing conditions and needs. The City updated and adopted its current Housing Element on January 31, 2023, which was prepared to respond to current and near-term future housing needs in Menlo Park and to reflect the upcoming RHNA cycle.[22] The Housing Element also provides a framework for the community's longer-term approach to addressing its housing needs. The Housing Element contains goals, updated information, and strategic directions (policies and implementing actions) that the City is committed to undertaking.[23]

State Housing Element Law requires the general plan of a city to have an updated Housing Element that provides for a specified number of housing units, based on an allocation of regional housing needs. The allocation process is now set to occur every 8 years, as discussed above. ABAG is responsible for the allocation in the Bay Area.

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[21] Association of Bay Area Governments and Metropolitan Transportation Commission. 2021. *Plan Bay Area 2050.* Available: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf. Accessed: February 28, 2022.

[22] City of Menlo Park Community Development. 2021. *Staff Report Number 21-030-CC*. February 9. Available: https://www.menlopark.org/DocumentCenter/View/27342/J6-20210209-CC-Housing-element-interview-panel. Accessed: February 28, 2022.

[23] City of Menlo Park. 2023. *Housing Element*. January 31, 2023.

The following policies within the Housing Element of the City's General Plan are relevant to the Proposed Project:

Goal H1: Implementation Responsibilities; Continue to Build Local Government Institutional Capacity and Monitor Accomplishments to Respond Effectively to Housing Needs

Policy H1.7: 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.

Goal H4: New Housing: Use Land Efficiently to Meet Community Housing Needs at a Variety of Income Levels, Implement Sustainable Development Practices and Blend Well-Designed New Housing into the Community.

Policy H4.10: Inclusionary Housing Approach. Require residential developments involving five or more units to provide units or an in-lieu fee equivalent for very low-, low-, and moderate-income housing. The units provided through this policy are intended for permanent occupancy and must be deed restricted, including, but not limited to, single-family housing, multi-family housing, condominiums, townhouses, or land subdivisions. In addition, the City will require larger nonresidential developments, as job generators, to participate in addressing housing needs in the community through the City's commercial in-lieu fee requirements.

ConnectMenlo, which updated the Land Use Element and Circulation Element of the Menlo Park General Plan, was adopted in November 2016. The following policies from ConnectMenlo are most relevant to the Proposed Project:

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-4.1 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.

Environmental Impacts

This section describes the impact analysis related to population and housing for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. A summary of the ConnectMenlo EIR impacts and mitigation measures is then provided. As previously discussed in Chapter 1, *Introduction*, the analysis below makes reference to, and tiers from, the ConnectMenlo Final EIR, where appropriate. This section identifies potential impacts of the Proposed Project and, if necessary, any mitigation measures.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant effect if it would result in any of the conditions listed below.

- Would the Project induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?
- Would the Project displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?

Methods for Analysis

This analysis considers whether population and household growth would occur with implementation of the Proposed Project and whether this growth would be within the forecasts for the city and/or considered substantial with respect to remaining growth potential in the city. This section uses ABAG projections to analyze the impacts of the Proposed Project.

The HNA prepared by Keyser Marston Associates (Appendix 3.5) has been applied to the analysis in the Draft EIR.[24] U.S. Census Bureau, U.S. Bureau of Labor Statistics, and California Employment Development Department data were used in preparation of the HNA. The HNA presents the anticipated housing needs associated with the Proposed Project. Issues related to both increased demand for housing and potential increased housing unit allocations are addressed. The HNA is part of a range of analyses that will be used in the decision-making and entitlement process for the Proposed Project. Preparation of the HNA is required under the terms of the 2017 settlement agreement between Menlo Park and East Palo Alto.

Indirect or secondary impacts are those that are caused by a project that occur later in time or are farther removed in distance but that are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate (CEQA Guidelines, Section 15358[a][2]). Specifically, growth-inducing effects include the ways in which a project could foster economic or population growth or the construction of additional housing, either directly or indirectly. Projects that would remove obstacles to population growth (e.g., a major expansion of a wastewater treatment plant) might allow development to occur in an area that was not previously considered feasible for development because of infrastructure limitations (CEQA Guidelines, Section 15126.2[d]). As such, indirect population growth is a secondary impact and is considered below.

In translating the estimated number of Project employees into demand for an estimated number of housing units, the analysis in the HNA and this section considers multiple-earner households. Multiple-earner households have two or more workers and take on a variety of forms, such as roommates and housemates, couples, and multi-generational households. However, if an added employee lives in a household with one or more other workers, the added employee is not responsible for creating demand for an entire additional housing unit, only a portion of the additional unit. There is no implicit assumption in the workers-per-household calculation that Project workers would live with one another, just that a certain number of people in the household are workers. Multiple-earner households are a factor that must be recognized in the analysis, irrespective of where the other working members of the household are employed. Specifically, 1.91 workers per worker household, derived from U.S. Census Bureau data (2015–2019 ACS), is the average number of workers in each working household in San Mateo County.

[24] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment 1125 O'Brien Drive Project*. December.

Summary of Analysis in the ConnectMenlo EIR

As described in Chapter 1, *Introduction*, the ConnectMenlo EIR provided a program-level analysis of the development potential envisioned for the entire city, including the increased development potential in the Bayfront Area. The Land Use Element specifically identifies new development potential in the Bayfront Area consisting of up to 2 million gross square feet (gsf) of non-residential space, 400 hotel rooms, and 4,500 residential units. The ConnectMenlo EIR determined that, at full buildout, implementation of ConnectMenlo would result in an additional 11,570 residents, for a total city-wide population of 50,350, and 5,500 new employees, for a total city-wide daytime population of 53,250. This topic was analyzed in the ConnectMenlo EIR as Impact POP-1 (pages 4.11-5 to 4.11-18) and determined to be less than significant. Within the ConnectMenlo EIR study area, future development would be guided by the policy framework. No mitigation measures were recommended.

The ConnectMenlo EIR found that buildout of ConnectMenlo would not displace a substantial number of housing units or people, nor would it require the construction of replacement housing elsewhere. This topic was analyzed in the ConnectMenlo EIR as Impacts POP-2 (pages 4.11-18 to 4.11-20) and POP-3 (page 4.11-20) and determined to be less than significant. Within the ConnectMenlo EIR study area, existing policies would ensure that adequate housing would remain and that the potential for any displacement of existing housing and people would be limited. No mitigation measures were recommended.

The ConnectMenlo EIR found that buildout of ConnectMenlo would result in a significant and unavoidable cumulative impact related to the direct and previously unplanned population growth in the area. Buildout of ConnectMenlo would result in population and housing levels that were not in alignment with ABAG's Projections 2013. However, the City found that future ABAG projections would take into account buildout of ConnectMenlo, and Menlo Park's growth would no longer contribute to a cumulative exceedance of regional projections. Since certification of the ConnectMenlo EIR, ABAG updated its population growth projections. The most recent regional projections (Plan Bay Area Projections 2040)[25] incorporate full buildout of ConnectMenlo.

Topics Evaluated in the Initial Study

The Initial Study prepared for the Proposed Project (Appendix 1-1) found that the impacts related to the displacement of people or housing would be less than significant. Refer to Appendix 1-1 for additional analysis.

Displacement of People or Houses. The Project site does not include housing units. Therefore, no housing would be displaced as a result of the Proposed Project. Although approximately 143 employees currently work at the Project site, these employees could be accommodated within Menlo Park or the larger surrounding region. Since these employees could be accommodated elsewhere, it is not expected that new buildings would need to be constructed due to this displacement. Therefore, the displacement of these employees would not result in an environmental impact. Job displacement that does not result in the construction of new buildings with activities providing employment opportunities, and associated financial implications, is not considered an environmental impact and is therefore not required to be further evaluated under CEQA. Therefore, the Proposed Project would result in a less-than-significant impact related to the displacement of people or housing. As such, this topic was scoped out from further review in the EIR and is not discussed in this section. Refer to Appendix 1-1 for additional analysis. No further evaluation is needed.

[25] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. Plan Bay Area Projections 2040. November.

Project Impacts and Mitigation Measures

Impact POP-1: Indirect Population Growth. The Proposed Project would not induce substantial population growth indirectly through job growth, nor would projected growth result in adverse direct impacts on the physical environment. (LTS)

The Proposed Project would involve demolition of existing buildings to construct a new five-story, 131,825 gsf building for research-and-development (R&D) uses with two surface parking lots. The Proposed Project would be built out by 2023. In general, biotech and R&D uses require fewer employees than office uses of the same size. The Proposed Project would be occupied by an estimated 328 employees, an increase of approximately 185 employees above the current 143 employees.[26]

The ConnectMenlo EIR considered the potential impacts on unplanned population growth associated with the buildout of ConnectMenlo, including buildout of the Life Sciences land use designation, wherein the Proposed Project is located. The Proposed Project is consistent with the Life Sciences land use designation, as well as the allowed density. The net increase in the number of employees at the Project site (i.e., 185) would represent approximately 3 percent of the 5,500 new employees assumed under full buildout of 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 employment growth beyond that already analyzed in the ConnectMenlo EIR. Although the Proposed Project would not result in onsite residential population increases, because no housing is proposed under the Project, the new employees could generate households within the city and the region, as discussed below.

Construction

Construction of the Proposed Project—including demolition, utility relocation and upgrades (including the O'Brien Drive and Adams Court waterline upgrade), grading/excavation, building and parking lot construction, landscape installation, and finishing work—would temporarily increase construction employment. Given the relatively common nature and scale of the construction associated with the Proposed Project, the demand for construction employment would most likely be met within the existing and future labor market in the city and the county. The size of the construction workforce would vary during the different phases of construction. The maximum number of construction workers required to be onsite on any given day would be 60. It is expected that construction workers would be obtained primarily from the Bay Area. 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. Therefore, impacts related to indirect population growth during construction of the Proposed Project would be ***less than significant***.

Operation

Employment Growth. As shown in Table 3.5-3, above, ABAG estimates that the number of jobs in the city's sphere of influence will grow by approximately 6,065 between 2020 and 2040. Operation of the Proposed Project would generate up to 185 new jobs at full buildout. Therefore, the number of employees generated by the Proposed Project would represent approximately 3 percent of the anticipated employment growth in the city from 2020 to 2040, which is within anticipated

[26] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment 1125 O'Brien Drive Project*. December.

employment growth forecasts.[27] Therefore, the number of employees generated by the Proposed Project would not exceed ABAG projections, and the Proposed Project would not result in an increase in city population or a demand for housing that would exceed ABAG projections, as explained in more detail below.

Indirect Population Growth in Menlo Park. As mentioned above, the Proposed Project would be occupied by approximately 328 employees, in comparison to the estimated 143 employees on the Project site. Therefore, operation of the Proposed Project would generate up to 185 net new jobs at full buildout and occupancy. Using an average of 1.91 workers per work household in San Mateo County, derived from U.S. Census Bureau data (2015–2019 ACS), the Proposed Project would generate the equivalent of approximately 97 households.[28] On average, approximately 5.9 percent of the city's workforce both work and reside in the city; however, only approximately 3.8 percent of employees who currently work on the Menlo Park Labs campus live in Menlo Park.[29] Using these numbers, the Proposed Project could result in 4 to 6 new housing units in Menlo Park.[30] With an average pph ratio of 2.6, the Proposed Project could generate approximately 11 to 16 new residents within Menlo Park. As shown in Table 3.5-1, approximately 44,530 residents lived within the city's sphere of influence in 2020. According to ABAG projections, the population is projected to increase to approximately 54,920 by 2040 as 10,390 new residents move to the city between 2020 and 2040. The 16 new residents in the city as a result of the Proposed Project would represent approximately 0.2 percent of anticipated population growth in the city between 2020 and 2040.[31]

Housing Growth in Menlo Park and the Sphere of Influence. As shown in Table 3.5-2, ABAG estimates that the number of households in the city's sphere of influence will grow by approximately 2,290 between 2020 and 2040. The Proposed Project could generate demand for up to 6 housing units in the city, assuming that 5.9 percent of employees would live in the city. Therefore, the Project-induced housing demand would equal approximately 0.3 percent of the anticipated housing growth in the city's sphere of influence from 2020 to 2040.[32]

Buildout of the Life Sciences land use designation, wherein the Proposed Project would be located, was considered as part of the growth analyzed in ConnectMenlo and accounted for in regional planning efforts and projections. The Proposed Project is consistent with the Life Sciences land use designation, as well as the allowed density. Therefore, the induced housing demand associated with the buildout of the Life Sciences land use designation, including the Proposed Project in the city, county, and region was also accounted for. ConnectMenlo anticipates the construction of approximately 3,000 residential units. In fact, several housing developments are currently going through the entitlement process or were

[27] The 185 net new employees generated by the Proposed Project/6,065 new jobs in the city between 2020 and 2040 × 100 = 3 percent of anticipated employment growth in the city's sphere of influence.

[28] 185 new jobs/1.91 workers per worker household = 97 total households.

[29] For informational purposes, the HNA also includes a goal-based commute share estimate of 20 percent, based on the 2000 Nexus Study. This would result in a demand for 19 housing units within the city. This is not reflective of existing conditions and is therefore not analyzed further here. For more details, please refer to Appendix 3.5.

[30] 97 total new households × 3.8 percent (Menlo Park Labs campus average) = 4 (rounded) units. 97 total new households × 5.9 percent (Menlo Park Labs average) = 6 (rounded) units.

[31] (up to 16 new residents in the city's sphere of influence/10,390 anticipated new residents in the city's sphere of influence between 2020 and 2040) × 100 = 0.15 percent of anticipated population growth in the city's sphere of influence.

[32] (6 units demanded by the Proposed Project/2,290 new households in the city's sphere of influence between 2020 and 2040) × 100 = 0.26 percent of anticipated housing growth in the city's sphere of influence.

recently approved in the vicinity of the Proposed Project, including the Menlo Uptown Project, with 483 units; Menlo Portal Project, with 335 units; 111 Independence Drive Project, with 105 units; Menlo Flats Project, with 158 units; 123 Independence Project, with 432 units; and Willow Village Project, with 1,730 units, for a combined total of more than 3,000 with respect to new units in the vicinity. Therefore, it is anticipated that the need for up to 6 additional housing units, induced by jobs associated with the Proposed Project, would be absorbed within this new housing construction in the city. In addition, the current vacancy rate in the city, according to the California DOF, is 7.4 percent. This represents approximately 1,045 vacant units in the city.[33] The 6 housing units that would be needed to accommodate the new households generated by the Proposed Project could be accommodated by the vacant units. As such, the Proposed Project's demand for housing could be accommodated within the city's anticipated housing construction and/or vacant units.

Regional Distribution of Housing Demand. The Proposed Project would generate a demand for 97 housing units in the region.[34] As stated above, it is anticipated that up to 5.9 percent of the 185 net new employees generated by the Proposed Project would live in Menlo Park, which would be up to 16 people. The remaining employees would very likely find housing throughout the region, with most commuting to the Project site from San Mateo, Santa Clara, Alameda, and San Francisco Counties. It is anticipated that between 67 and 69 percent of workers would live in Santa Clara and San Mateo Counties. The remaining workers are assumed to commute primarily from San Francisco and Alameda Counties. Around 7 percent are assumed to commute from other counties. The cities adjacent to Menlo Park are also expected to house potential employees, as follows:[35]

- East Palo Alto: 1.1 to 3.1 percent (two to six employees)
- Palo Alto: 2.7 to 4.0 (five to seven employees)
- Atherton: 0.5 to 0.9 percent (one to two employees)
- Redwood City: 5.1 to 9.1 percent (nine to seventeen employees)
- Woodside: 0.0 to 0.5 percent (zero to one employee)

ABAG projections are considered the benchmark for foreseeable housing growth (built housing) in each area. As shown in Table 3.5-2, ABAG projects that the number of households will grow by 18.9 percent in the Bay Area region, 11.9 percent in San Mateo County, and 14.9 percent in the city from 2020 to 2040. For that same period, the indirect housing demand for 97 units generated by the Proposed Project would be 0.02 percent of the projected household growth in the Bay Area and 0.29 percent of that in San Mateo County. On a regional basis, the Proposed Project's demand for housing would not represent a significant share of the total housing growth projected by ABAG.

Income Distribution of Housing Demand. Housing affordability is an important consideration for planning purposes. However, it is a socioeconomic issue and therefore not an environmental impact that must be evaluated under CEQA (CEQA Guidelines Section 15131). A shortfall in affordable units within the city is not, in and of itself, considered a physical environmental impact. However, for informational purposes only, this subsection provides the distribution of indirect housing demand, according to affordability levels. This discussion is based on information from the HNA and RHNA.

[33] The 7.4 percent vacancy rate × 14,124 existing total housing units in the city as of January 1, 2021 = 1,045 vacant units in the city.

[34] The 185 net new employees at the Project site/1.9 workers per household in San Mateo County = 97 total units.

[35] Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment 1125 O'Brien Drive Project*. December.

Housing affordability is determined relative to the AMI for a locality, as defined by the U.S. Department of Housing and Urban Development (HUD).[36] Per HUD's definition, very low-income housing is affordable for households with incomes under 50 percent of the AMI, low-income housing is affordable for households with incomes between 51 and 80 percent of the AMI, moderate-income housing is affordable for households with incomes between 81 and 120 percent of the AMI, above moderate-income housing is affordable for households with incomes between 121 and 150 percent of the AMI, and upper-income housing is affordable for households with incomes greater than 151 percent of the AMI.

Employment growth generated by the Proposed Project would contribute to housing demand at various income levels. Table 3.5-6 provides a breakdown of the Proposed Project's indirect housing demand, according to projected household incomes. As shown, for the region within commuting distance, the Proposed Project would indirectly result in a demand for 29 units for households with extremely low to moderate incomes. For employee households categorized as above moderate, there would be a demand for an estimated 23 units, representing approximately 23.7 percent of the total. The upper-income tier is estimated to represent the largest share of housing demand, with a demand for 45 units (or 46.4 percent of the total). Table 3.5-6 also includes a breakdown of the estimated share of Menlo Park's total housing needs by income, using the conservative assumption that 5.9 percent of employees at the Project site would live in the city. As shown, there would be a demand for approximately two units for households with very low to moderate income levels, one unit for households with above-moderate income levels, and three units for households within the upper income levels.

Table 3.5-6. Number of New Households by Household Income Level in the City and Region (In Commuting Distance)

Income Category	Income Definition	Number of Households (City)	Number of Households (Region)[a]	% of Total
Extremely Low Income	0%–30% AMI	0	0	0.0%
Very Low Income	31%–50% AMI	0	2	2.1%
Low Income	51%–80% AMI	1	12	12.4%
Moderate Income	81%–120% AMI	1	15	15.5%
Above Moderate Income	121%–150% AMI	1	23	23.7%
Subtotal for up all categories to 150% AMI		*3*	*52*	*53.6%*
Upper Income	More than 150% AMI	3	45	46.4%
Total		**6**	**97**	**100%**

Source: Keyser Marston Associates, 2021.

Note:

a. The region includes San Mateo County, Santa Clara County, Alameda County, San Francisco County, Contra Costa County, Santa Cruz County, Marin County, Napa County, and Sonoma County and the city of San Francisco. A small portion of the households generated by the Proposed Project would be located outside the region.

[36] According to the California Department of Housing and Community Development (fiscal year 2021), the area median income in San Mateo County in 2021 was $104,700 for one person, $119,700 for two people, $134,650 for three people, and $149,600 for four people.

Conclusion. The Proposed Project is an infill development within an already-developed area of the city. The employment growth, as well as indirect housing demand, under the Proposed Project is accounted for in ConnectMenlo and regional growth plans, such as ABAG projections. The Project site is well served by urban infrastructure, services, and transit. The Proposed Project would not induce a substantial level of unplanned population growth in the city, either directly or indirectly, resulting in ***less-than-significant*** impacts.

Cumulative Impacts

Impact C-POP-1: Cumulative Indirect Population Growth. Proposed development in the city would contribute to population growth but would not exceed growth projections. (LTS)

The ConnectMenlo EIR identified a significant and unavoidable impact related to population growth under the cumulative condition because the planning documents pertaining to regional growth did not include the new development potential of ConnectMenlo. However, subsequent to certification of the ConnectMenlo EIR, ABAG updated its growth projections (Plan Bay Area Projections 2040), which included full buildout of ConnectMenlo. Therefore, because the Proposed Project is within the scope of development anticipated by ConnectMenlo and ABAG's Plan Bay Area Projections 2040, the Proposed Project would result in a ***less-than-significant impact*** with respect to cumulative population growth.

Population and Housing Analysis of Waterline Upgrades

As described in Chapter 2, *Project Description,* and in the 1350 Adams Court EIR,[37] the existing 10-inch water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may develop before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

The EIR for the 1350 Adams Court project determined that waterline construction would not displace any housing units and that given the common nature and scale of the construction, the demand for construction employment for the waterline construction would most likely be met within the existing and future labor market in the City and the county. Therefore, the EIR for the 1350 Adams Court project found that impacts related to indirect population growth during construction of the waterlines would be ***less than significant***.

[37] City of Menlo Park. 2022. *1350 Adams Court EIR*. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

3.6 Cultural and Tribal Cultural Resources

This section describes the affected environment and regulatory setting for cultural and tribal cultural resources. The term "cultural resources" refers to built-environment resources (e.g., buildings, structures, objects, districts), archaeological resources, and human remains. Tribal cultural resources can include cultural resources as well as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed in or eligible for listing in the California Register of Historical Resources (California Register), included in a local register of historical resources, or determined to be significant by the lead agency (California Public Resources Code Section 21074).

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1-2) were considered in preparing this analysis. There was one comment from the Native American Heritage Commission (NAHC) pertaining to tribal cultural resources.

Existing Conditions

The environmental setting for the Proposed Project consists of existing conditions within the CEQA study area, which is the Project site and adjoining parcels. A study area was delineated to consider potential impacts on archaeological and tribal cultural resources caused by Project activities, including ground disturbances and alterations at the Project site. The area of study included parcels adjacent to the Project site to determine if the Proposed Project could result in changes to the setting of significant archaeological or tribal cultural resources adjacent to the Project site, which could diminish the integrity of such resources and reduce their ability to convey their historical significance or tribal cultural value.

This section 1) provides a brief overview of the environmental, pre- contact, and historical setting for the Project site and surrounding area; 2) describes the methods used to establish baseline conditions for archaeological and tribal cultural resources at the Project site; 3) presents a summary of known archaeological resources at the Project site and in the vicinity, as well as a summary of their significance under the California Environmental Quality Act (CEQA); and 4) establishes the potential for the Project site to contain as-yet undocumented archaeological or tribal cultural resources.

Environmental Setting

The Project site is located along the southwest edge of the San Francisco Bay (Bay). The natural habitat of the San Mateo Peninsula prior to historic development included grasslands and pockets of oak woodland populated by variety of small, medium, and large mammals, shorebirds, and various marine invertebrates, including the native California oyster (*Ostrea lurida*), bay mussel (*Mytilus edulis*), and bent-nosed clam (*Macoma nasuta*), among others. The Project site and its vicinity would have had small freshwater marshes, tidal sloughs, and salt marshes along the Bay margin. The local climate is characterized as Mediterranean, with mild, rainy winters and dry, warm summers. The cold water of the Bay creates frequent periods of fog and high relative humidity year-round.

Past and current grasslands as well as riparian forests/willow groves, coupled with tidal marshes associated with past and current stream channels, are key elements for predicting the locations of pre-contact. Researchers have noted that pre-contact archaeological resources are often within 0.25 mile of flowing water in the Bay Area.

Pre-Contact Setting

The San Francisco Bay–Delta Cultural Sequence, often referred to as the Central California Taxonomic System, is defined according to the stylistic variation in artifacts from burials found in the lower Sacramento Valley.[1] Over time, this sequence was refined as research yielded new clues to early development of the Bay Area. The summaries that follow are extracted from a cultural resources investigation by Byrd and Meyer (2011),[2] which relied on several studies, including Milliken et al. (2007),[3] Rosenthal and Meyer (2004),[4] and Moratto (1984).[5]

Terminal Pleistocene (13,500–11,600 calibrated years before present [cal BP]). The Terminal Pleistocene is largely contemporaneous with the Clovis and Folsom periods of the Great Plains and the Southwest and generally considered to be represented by wide-ranging, mobile hunters and gatherers who regularly exploited large game.[6] Throughout California, the Terminal Pleistocene is most often represented by isolated fluted points.[7,8]

Early Holocene (11,600–7700 cal BP). Early Holocene archaeological deposits in the Bay Area are sparse; only four sites date to this period, two sites at Los Vaqueros Reservoir (Contra Costa County [CCO]-696 and -637) in the East Bay, the Blood Alley site (Santa Clara County [SCL]-178) in the Coyote Narrows of the Santa Clara Valley, and SCR-177 at Scott's Valley in the Santa Cruz Mountains.[9,10,11] Their deposits, which indicate diverse resource exploitation, demonstrate that the general region was occupied throughout this time segment, but strong insight into the nature of early occupational trends is still lacking.

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1 Lillard, J., R. Heizer, and F. Fenenga. 1939. *An Introduction to the Archaeology of Central California.* Department of Anthropology Bulletin 2. Sacramento Junior College, Sacramento, CA.

2 Byrd, B.F., and J. Meyer. 2011. *Initial Cultural Resources Investigation, San Francisquito Creek Flood Damage Reduction and Ecosystem Restoration Project, Santa Clara and San Mateo Counties, California*. Redacted version. Prepared for Kristin O'Kane, Santa Clara Water District, San José, CA.

3 Milliken, R., R.T. Fitzgerald, M.G. Hylkema, R. Groza, T. Origer, D.G. Bieling, A. Leventhal, R.S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D.A. Fredrickson. 2007. Punctuated Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity,* Terry L. Jones and Kathryn A. Klar (eds.). Chapter 8, pp. 99–123. Altamira Press, New York, NY.

4 Rosenthal, J.S., and J. Meyer. 2004. *Landscape Evolution and the Archaeological Record: A Geoarchaeological Study of the Southern Santa Clara Valley and Surrounding Region*. Center for Archaeological Research at Davis, Publication 14, University of California, Davis, CA.

5 Moratto, M. 1984. *California Archaeology*. Academic Press, New York, NY.

6 Haynes, G.M. 2002. *The Early Settlement of North America: The Clovis Era*. Cambridge University Press, Cambridge.

7 Erlandson, J., T.C. Rick, T.L. Jones, and J.F. Porcasi. 2007. One If by Land, Two If by Sea: Who Were the First Californians? In *California Prehistory: Colonization, Culture, and Complexity*, T.L. Jones and K. Klar (eds.), pp. 53–62. Altamira Press, Walnut Creek, CA.

8 Rondeau, M.F., J. Cassidy, and T.L. Jones. 2007. Colonization Technologies: Fluted Projectile Points and the San Clemente Island Woodworking/Microblade Complex. In *California Prehistory: Colonization, Culture, and Complexity*, T.L. Jones and K. Klar (eds.), pp. 63–70. Altamira Press, New York, NY.

9 Cartier, R. 1993. *The Scotts Valley Site: CA-SCR-177*. Santa Cruz Archaeological Society, Santa Cruz, CA.

10 Hildebrandt, W.R. 1983. *Archaeological Research of the Southern Santa Clara Valley Project: Based on a Data Recovery Program from Sites CA-SCl-54, CA-SCl-163, CA-SCl-178, CA-SCl-237, and CA-SCl-241 Located in the Route 101 Corridor, Santa Clara County, California*. Daniel, Mann, Johnson, and Mendenhall and California State University, Los Angeles and San José. Submitted to California Department of Transportation, District 4, San Francisco, CA. Report S-6369. On file at the Northwest Information Center, Sonoma State University, Rohnert Park, CA.

11 Meyer, J., and J.S. Rosenthal. 1997. Archaeological and Geoarchaeological Investigations at Eight Prehistoric Sites in the Los Vaqueros Reservoir Area, Contra Costa County. In *Los Vaqueros Project Final Report.* Anthropological Studies Center, Sonoma State University, Rohnert Park, CA. Submitted to the Contra Costa Water District, Concord, CA. Report on file, Northwest Information Center, Sonoma State University, Rohnert Park, CA.

Middle Holocene (7700–4000 cal BP). In the Bay Area, Middle Holocene assemblages can include various types of ground stone; points; chopping, scraping, and pounding implements; and shell beads and ornaments.[12,13] Exploitation of the Bay's estuary, mud flats, and freshwater tidal marshes was common, and the presence of a diverse range of habitation sites, including the basal layers of some Bay-margin shell mounds, suggests higher population levels, more complex adaptive strategies, and longer seasonal occupation than during the early Holocene. Notable sites in the vicinity of the Project site include SCL-484, -674, and -832; SMA-269 and -273; and SFR-28, all of which contained several isolated human burials.

Late Holocene (4000–170 cal BP). The Late Holocene is generally divided into five "slices," based on specific types of shell beads. The period is well documented in the Bay Area; more than 200 sites reflect widespread occupation by complex hunter-gatherers.[14] Important mounds along the margins of the San Francisco Peninsula include the, Hiller Mound Site (SMA-160/H) University Village site (SMA-77), the San Bruno Mountain Mound (SMA-40), and the Ynigo Mound (SCL-12/H).[15,16,17] The artifact assemblages include various types of beads and pendants, bone tools, "flower pot" mortars, and bows and arrows. Funerary rituals were strongly patterned and included flexed interments and "killed" grave offerings, along with occasional cremations. Extensive trade relations also appear to have flourished with neighboring groups.

[12] Fitzgerald, R.T., Jr. 1993. *Archaic Milling Cultures of the Southern San Francisco Bay Region*. G.S. Breschini and T. Haversat (eds.). Coyote Press Archives of California Prehistory, Number 35. Coyote Press.

[13] Meyer, J., and J.S. Rosenthal. 1998. *An Archaeological Investigation of Artifacts and Human Remains from CA-CCO-637, Los Vaqueros Project Area, Contra Costa County, California*. Anthropological Studies Center, Sonoma State Academic Foundation, Inc., Rohnert Park, CA. Submitted to Contra Costa Water District, Concord, CA.

[14] Milliken, R., R.T. Fitzgerald, M.G. Hylkema, R. Groza, T. Origer, D.G. Bieling, A. Leventhal, R.S. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D.A. Fredrickson. 2007. Punctuated Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity,* Terry L. Jones and Kathryn A. Klar (eds.). Chapter 8, pp. 99–123. Altamira Press, New York, NY.

[15] Byrd, B.F., and J. Berg. 2009. *Phase II Excavations in the Caltrans Right-of-Way at CA-SCL-12/H, Santa Clara County, California*. (04-SCL-101/237 PM 46.10-46.3.) Prepared for Caltrans District 4.

[16] Clark, M. 1989 (revised 1998). *Evaluative Archaeological Investigations at the San Bruno Mountain Mound Site, CA-SMA-40, South San Francisco, California*. Report on file, Northwest Information Center, Sonoma State University, Rohnert Park, CA.

[17] Gerow, B.A., with R.W. Force. 1968. *An Analysis of the University Village Complex: With a Reappraisal of Central California Archaeology.* Stanford University Press, Stanford, CA.

Ethnographic Setting

Long before contact with the Spanish, California Native Americans, including those around the San Francisco Bay, had already developed complex social, ceremonial, political, and economic institutions that were interconnected with neighboring tribal groups and regions. This development is seen in the archaeological record through the artifact assemblages, mortuary mounds, and burial patterns found throughout the region.[18]

Native Californians settled in the Menlo Park area between 14,000 and 6,000 years ago. Subsequent Penutian peoples migrated into central California around 4,500 years ago and were firmly settled around San Francisco Bay 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, although they are often referred to by the name of their broader linguistic group, *Costanoan*, which was the name incorrectly bestowed by the Spanish.

The word *Costanoan* comes from the Spanish word *Costanos*, meaning *coast people*, which was given to the tribes in 1770 when the first mission was established in their traditional tribal territory. The Costanoan represented a group of people who spoke eight separate languages but whose dialects were similar to those of their geographic neighbors. The languages included Karkin, Chochenyo, Ramaytush, Tamyen, Awaswas, Mutsun, Rumsen, and Chalon. Although ethnographers differentiate the tribes by language and cultural expression, the Native American populations actually consisted of numerous politically autonomous nations. Moreover, forced displacement and recombination of Native American communities has led to a change in the way cultural affiliation is described and mapped today.

Menlo Park is near the ethnolinguistic boundary between the Tamyen and Ramaytush language groups. Tamyen (also written as "Thámien" in earlier documents or, today, as "Tamien"), or the Santa Clara language group, is traditionally spoken in the area at the southern end of San Francisco Bay and within the lower Santa Clara Valley. Contemporary Tamien, however, recognize their traditional cultural affiliation as extending north to Redwood City (inclusive of Menlo Park). They descended from those who resided at Mission Santa Clara, Mission Santa Cruz, and Mission San Juan Bautista. Contemporary Tamien are direct descendants of Chief Tulum and Yaayaye and others who were taken to Mission Santa

[18] Arellano, Monica V., Alan Leventhal, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, and Charlene Nijmeh. 2021. *An Ethnohistory of Santa Clara Valley and Adjacent Regions.* Historic Ties of the Muwekma Ohlone Tribe of the San Francisco Bay Area and Tribal Stewardship over the Human Remains Recovered on the Prometheus Project located at 575 Benton Street and Affiliated with the 3rd Mission Santa Clara de Thámien Indian Neophyte Cemetery and Indian Rancheria: Clareño Muwékma Ya Túnnešte Nómmo [Where the Clareño Indians Are Buried], Site CA-SCL-30/H. Available: https://www.academia.edu/67563699/An_Ethnohistory_of_Santa_Clara_Valley_and_Adjacent_Regions_Historic_Ties_of_the_Muwekma_Ohlone_Tribe_of_the_San_Francisco_Bay_Area; Bennyhoff, James A. 1977. *Ethnogeography of the Plains Miwok*. Center for Archaeological Research at Davis. Publication No. 5. University of California, Davis; Fredrickson, David A. 1973. *Early Cultures of the North Coast of the North Coast Ranges, California*. Ph.D. dissertation, Department of Anthropology, University of California, Davis; Gifford, Edward W. 1955. Central Miwok Ceremonies. In *University of California Anthropological Records* 14(4):261–318, Berkeley; Kroeber, A.L. 1932. The Patwin and Their Neighbors. In *University of California Publications in American Archaeology and Ethnology* 29(4):253–423. Berkeley, CA; Kroeber, A.L. 1939. Cultural and Natural Areas of Native North America. In *University of California Publications in American Archaeology and Ethnology* 38:1–240, Berkeley, CA; Leventhal, Alan. 1993. *A Reinterpretation of Some Bay Area Shellmound Sites: A View from the Mortuary Complex at CA-ALA-329, the Ryan Mound.* Unpublished master's thesis, Department of Social Sciences, San José State University; Moratto, M.J. 1984. *California Archaeology*. Orlando, FL: Academic Press, Inc. (Harcourt, Brace, Jovanovich, Publishers).

Clara. Having recently exercised their self-determination, they recognize that they have always been Tamien.[19] In 1770, there were approximately 1,200 speakers of the Tamyen language.[20] Today, the language is being actively revitalized and documented by tribal language expert Quirina Geary.[21]

The neighboring language to the north, Ramaytush, or the San Francisco language group, is spoken traditionally in San Francisco and San Mateo Counties.[22] In 1770, there were 1,400 speakers. There is only one lineage within the Ramaytush tribe today that is known to have produced living descendants, most of whom refer to themselves as Ohlone, along with a few Costanoan.[23]

Other contemporary groups have been organized from descendants of other Ohlone languages. The Amah Mutsun Tribal Band is composed of the direct descendants of the people whose territories fell under the influence of Mission Santa Cruz (Awaswas) and Mission San Juan Bautista (Mutsun). Amah villages were distinct from those outside the San Juan Valley because no other tribe spoke Mutsun. Today members can trace their descendance to other missions as well.[24]

The Amah Mutsun Tribal Band are composed of the descendants of the Mutsun language speakers of San Juan Bautista and the Awaswas speakers of Santa Cruz.[25] With an enrolled membership of nearly 600 Bureau of Indian Affairs-documented tribal members, the Amah Mutsun Tribal Band represents the "the Previously Recognized Tribal group listed by the Indian Service Bureau (now known as the Bureau of Indian Affairs) as the San Juan Band. All lineages comprising the Amah Mutsun Tribal Band are the direct descendants of the aboriginal Tribal groups whose villages and territories fell under the sphere of influence of Missions San Juan Bautista (Mutsun) and Santa Cruz (Awaswas) during the late 18th, 19th and early 20th centuries.

The Amah Mutsun Tribal Band has been present within its traditional territory for as far back as oral history can trace. This area spans Monterey Bay and extends from the south Bay to just south of present-day Soledad.

For thousands of years prior to Spanish contact in the 18th century, the Amah Mutsun occupied a series of villages along the Pajaro River Basin. The occupants of these villages were united by their cultural practices, religious beliefs, and their exclusive use of the Mutsun language. This is one of eight distinct languages in the Costonoan/Ohlone language family, and it is estimated that there were around 7,000 speakers in the San Juan Valley at the time of Spanish contact. [26]

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[19] ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.

[20] Levy, R. 1978. Costanoan. In *Handbook of North American Indians*, Chapter 8, California, pp. 398–413.

[21] ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.

[22] Levy, R. 1978. Costanoan. In *Handbook of North American Indians*, Chapter 8, California, p. 485.

[23] Association of Ramaytush Ohlone. 2022. *The Original Peoples of the San Francisco Peninsula*. Available: https://www.ramaytush.org/. Accessed: July 7, 2022.

[24] Amah Mutsun Tribal Band. 2022. *History of the Tribe*. Available: https://amahmutsun.org/history. Accessed: July 7, 2022.

[25] Lopez, Valentin. 2013. The Amah Mutsun Tribal Band: Reflections on Collaborative Archaeology. California Archaeology. Volume 5, Number 2. December. Pp. 221-223.

[26] Amah Mutsun Tribal Band (AMTB). 2022. History of the Tribe. < https://amahmutsun.org/history> Accessed July 7, 2022.

This area is recognized for its wealth of natural resources. The presence of waterways provided an abundance of fish, and the plant and animal life of the region was diverse and bountiful, allowing the ancestral Amah Mutsun to utilize a range of subsistence strategies. They crafted tools for hunting and fishing from a variety of available materials, including bone, wood, and stone. They also wove baskets for trapping, food collection, and food storage. The local fauna they utilized for food included fish, shellfish, reptiles, insects, and a variety of birds. Additionally, land management through controlled burning helped them to cultivate a wealth of wild nuts, grapes, berries, and herbs.[27] This Traditional Ecological Knowledge continues to be practiced today by contemporary practitioners.

In the traditional villages of the Pajaro River Basin, there were a series of domestic dwellings surrounding a central dancing area. The dwellings were dome-shaped structures thatched with fibrous plant material, and the dancing area was surrounded by a woven fence with a single doorway. There were also sweathouses dug directly into the banks of nearby creeks.[28] These structures are important for religious practice among the Amah Mutsun, who have a strong connection with the earth, because they were tasked by their creator to protect it. Within these structures, many songs, prayers, and ceremonies that were endowed by their creator directly are performed. These religious practices are strongly rooted in oral tradition and passing this knowledge to new generations was prioritized in their culture.[29]

The arrival of the Spanish in the San Juan Valley precipitated the founding of the San Juan Bautista mission in 1797, which changed every aspect of life for the Amah Mutsun.[30] Though many fled and some fought against the Spanish, ultimately most were taken from their villages and forced into labor at the Mission. The Spanish usurped native religious traditions, banned the traditional practice of controlled burning, and seized native land on behalf of the Mission. In addition to the hardship of labor and having their lifeways disrupted, the Amah Mutsun suffered from diseases they were exposed to by the Spanish and a large portion of their population died as a result.[31,32]

During the Mexican period, the Amah Mutsun were allowed to leave the Mission, but they were again forced into labor as ranch hands, domestic workers, and construction workers. Once California became a part of the United States, laws prevented the tribe from gaining a foothold on their ancestral lands, restricted their civil rights, and prevented them from having tribal representation in the government. The plight of the Amah Mutsun was worsened in 1851 by a failure of the government to ratify a series of treaties that would have awarded them with reservations on their ancestral land. The federal

[27] Lopez, Valentin. 2013. The Amah Mutsun Tribal Band: Reflections on Collaborative Archaeology. California Archaeology. Volume 5, Number 2. December. Pp. 221-223.

[28] Amah Mutsun Tribal Band (AMTB). 2022. History of the Tribe. < https://amahmutsun.org/history> Accessed July 7, 2022.

[29] Lopez, Valentin. 2013. The Amah Mutsun Tribal Band: Reflections on Collaborative Archaeology. California Archaeology. Volume 5, Number 2. December. Pp. 221-223.

[30] Hart, Richard E. 2013. Federal Recognition of Native American Tribes: The Case of California's Amah Mutsun. Western Legal History. Volume 16, Number 1. Winter/Spring. Pp. 39-84.

[31] Amah Mutsun Tribal Band (AMTB). 2022. History of the Tribe. < https://amahmutsun.org/history> Accessed July 7, 2022.

[32] Lopez, Valentin. 2013. The Amah Mutsun Tribal Band: Reflections on Collaborative Archaeology. California Archaeology. Volume 5, Number 2. December. Pp. 221-223.

recognition status of the Amah Mutsun was rescinded in 1927. Efforts to reinstate the federal recognition are underway. The tribe is currently listed with the Department of Interior, Bureau of Indian Affairs as Petitioner #120.[33,34,35]

Revitalization efforts are also ongoing, as tribal members are working to restore knowledge of the Mutsun language and traditional religious practices, and to restore the ethnobotany and ecological diversity of their ancestral region. [36]

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. These lineages trace their ancestry through Mission Dolores, Mission Santa Clara, and Mission San José. They also include members of the historic federally recognized Verona Band of Alameda County.[37] According to Arellano et al., the traditional lands include Alameda, Contra Costa, Napa, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, and Solano Counties and crosscut several major linguistic and tribal boundaries.

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.[38] 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.[39] The Muwekma Ohlone Chochenyo, Tamien, Ramaytush and Awáwas languages fall under the Ohlone/Utian language family.[40]

The members of the Muwekma Ohlone Tribe are directly descended from the once-federally recognized Verona Band of Alameda County, and their ancestors before them, who trace their ancestry through the Mission Delores, Santa Clara, and San Jose. This also includes the Alisal and Niles Rancherias, which had come under the influence of not only the broken secularization during the 18th century and throughout the Mexican and Mission eras, but also the fast transformation brought about by the Gold Rush and other advancements and growth well into the early 20th century.

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33 Hart, Richard E. 2013. Federal Recognition of Native American Tribes: The Case of California's Amah Mutsun. Western Legal History. Volume 16, Number 1. Winter/Spring. Pp. 39-84.

34 Amah Mutsun Tribal Band (AMTB). 2022. History of the Tribe. Available: https://amahmutsun.org/history. Accessed: July 7, 2022.

35 Rodriguez, Carolyn Terese. 2020. (Re)writing California Native American Representations: Amah Mutsun Sovereignty and Educational Experiences of Tribal Elders. Master's Thesis, University of California, Los Angeles.

36 Lopez, Valentin. 2013. The Amah Mutsun Tribal Band: Reflections on Collaborative Archaeology. California Archaeology. Volume 5, Number 2. December. Pp. 221-223.

37 Muwekma Ohlone Tribe. 2022. *Welcome and History*. Available: http://www.muwekma.org/. Accessed: July 7, 2022.

38 Ragland, Alisha. 2018. Resisting Erasure: The History, Heritage, and Legacy of the Muwekma Ohlone Tribe of the San Francisco Bay Area. Master's Thesis. San Jose State University.

39 Leventhal, Alan, Emily McDaniel, Melynda Atwood, Diane DiGiuseppe, David Grant, Colin Jaramillo, Rosemary Cambra, Charlene Nijmeh, Monica V. Arellano, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, Les Field, Dottie Galvan Lameira, Hank Alvarez, Jessica Veikune and Norma Sanchez. 2015. Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of Thámien Rúmmeytak [Guadalupe River Site], (CA-SCL-128/Hyatt Place Hotel) Located in Downtown San Jose, Santa Clara County, California. Report Prepared for DiNapoli Construction Hyatt Place Hotel by Muwekma Ohlone Tribe of the San Francisco Bay Area Ohlone Families Consulting Services. On file at San Jose State University and Northwest Archaeological Information Center, Sonoma State University.

40 Ohlone Land (OL). 2022. Available: https://cejce.berkeley.edu/ohloneland. Accessed: October 19, 2022.

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.[41,42] For over 12,000 years prior to Spanish contact in the 18th century, the Muwekma Ohlone have been hunting, fishing, and harvesting within the greater San Francisco Bay Area and established villages along creeks and permanent water sources. These residents were connected by their native communities and social networks, such that it is recognized that the Muwekma had an entire network of their own. Either way, these connections remained even through the struggle to survive by Spanish and European occupation.[43]

The seasonality of subsistence-related activities of traditional lifeways cover a wide range of microecosystems, such as freshwater creeks and streams, inland lagoons, bay shore wetlands and other resources such as hardwood forests and grasslands. Families moved in groups during the course of the year, using temporary seasonal shelters for specialized tasks that were never too far from the permanent or semi-permanent villages.[44]

According to anthropologists,[45,46] the Muwekma Ohlone practice the Northern Californian Kuksu religion, which involves ceremonial regalia, rites of passage, and medicine men, as well as anthropomorphic Kuksu pendants.[47,48] The arrival of the Spanish transformed every aspect of Native

41 Ibid.

42 Muwekma Ohlone Tribe. 2022. Traditional Territory. < http://www.muwekma.org/maps.html> Accessed October 19, 2022.

43 Ragland, Alisha. 2018. Resisting Erasure: The History, Heritage, and Legacy of the Muwekma Ohlone Tribe of the San Francisco Bay Area. Master's Thesis. San Jose State University.

44 Arellano, Monica V., Alan Leventhal, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, and Charlene Nijmeh. 2021. An Ethnohistory of Santa Clara Valley and Adjacent Regions; Historic Ties of the Muwekma Ohlone Tribe of the San Francisco Bay Area and Tribal Stewardship Over the Human Remains Recovered on the Prometheus Project located at 575 Benton Street and Affiliated with the 3rd Mission Santa Clara de Thámien Indian Neophyte Cemetery and Indian Rancheria: Clareño Muwékma Ya Túnnešte Nómmo [Where the Clareño Indians are Buried] Site CA-SCL-30/H. https://www.academia.edu/67563699/An_Ethnohistory_of_Santa_Clara_Valley_and_Adjacent_Regions_Historic_Ties_of_the_Muwekma_Ohlone_Tribe_of_the_San_Francisco_Bay_Area

45 Leventhal, Alan, Emily McDaniel, Melynda Atwood, Diane DiGiuseppe, David Grant, Colin Jaramillo, Rosemary Cambra, Charlene Nijmeh, Monica V. Arellano, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, Les Field, Dottie Galvan Lameira, Hank Alvarez, Jessica Veikune and Norma Sanchez. 2015. Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of Thámien Rúmmeytak [Guadalupe River Site], (CA-SCL-128/Hyatt Place Hotel) Located in Downtown San Jose, Santa Clara County, California. Report Prepared for DiNapoli Construction Hyatt Place Hotel by Muwekma Ohlone Tribe of the San Francisco Bay Area Ohlone Families Consulting Services. On file at San Jose State University and Northwest Archaeological Information Center, Sonoma State University.

46 Ragland, Alisha. 2018. Resisting Erasure: The History, Heritage, and Legacy of the Muwekma Ohlone Tribe of the San Francisco Bay Area. Master's Thesis. San Jose State University.

47 Leventhal, Alan, Emily McDaniel, Melynda Atwood, Diane DiGiuseppe, David Grant, Colin Jaramillo, Rosemary Cambra, Charlene Nijmeh, Monica V. Arellano, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, Les Field, Dottie Galvan Lameira, Hank Alvarez, Jessica Veikune and Norma Sanchez. 2015. Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of Thámien Rúmmeytak [Guadalupe River Site], (CA-SCL-128/Hyatt Place Hotel) Located in Downtown San Jose, Santa Clara County, California. Report Prepared for DiNapoli Construction Hyatt Place Hotel by Muwekma Ohlone Tribe of the San Francisco Bay Area Ohlone Families Consulting Services. On file at San Jose State University and Northwest Archaeological Information Center, Sonoma State University.

48 Ragland, Alisha. 2018. Resisting Erasure: The History, Heritage, and Legacy of the Muwekma Ohlone Tribe of the San Francisco Bay Area. Master's Thesis. San Jose State University.

American religion and life. 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. All of this led to the average lifespan of a missionized Native American to be three years, at best.[49]

After California statehood, at least six Muwekma Indian rancherias, including the Alisal Rancheria, that persisted during the 19th and early 20th centuries. The Verona Band of the Alisal Rancheria is considered to be the most significant Ohlone community in the Bay Area. Overall, the rancherias were used as a place of retreat from mission life.[50] A religious revitalization movement referred to as the Ghost Dance spread across California in the 1870s, and at Alisal, the Ghost Dance was combined with the Kuksu religion and other rites practiced throughout the state. [51]

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. [52] 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. [53]

All of the aforementioned communities have a shared heritage that has been memorialized through oral history, ethnography, and archaeology. The description below represents a blended subset of the rich culture that has occupied the Bay Area for thousands of years. 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.[54]

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49 Ibid.

50 Ibid.

51 Leventhal, Alan, Emily McDaniel, Melynda Atwood, Diane DiGiuseppe, David Grant, Colin Jaramillo, Rosemary Cambra, Charlene Nijmeh, Monica V. Arellano, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, Les Field, Dottie Galvan Lameira, Hank Alvarez, Jessica Veikune and Norma Sanchez. 2015. Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of Thámien Rúmmeytak [Guadalupe River Site], (CA-SCL-128/Hyatt Place Hotel) Located in Downtown San Jose, Santa Clara County, California. Report Prepared for DiNapoli Construction Hyatt Place Hotel by Muwekma Ohlone Tribe of the San Francisco Bay Area Ohlone Families Consulting Services. On file at San Jose State University and Northwest Archaeological Information Center, Sonoma State University.

52 Ragland, Alisha. 2018. Resisting Erasure: The History, Heritage, and Legacy of the Muwekma Ohlone Tribe of the San Francisco Bay Area. Master's Thesis. San Jose State University.

53 Ibid.

54 ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.

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. Ethnographic studies have documented approximately 40 such districts, with each one consisting of 200 to 250 people.[55] 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.[56]

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.[57] 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. Hunting was often followed by slitting the animal's eyes and placing meat in it ears and nostrils as a sign of good luck; this was also done so that the animal would not see, hear, or smell the hunters.[58]

Not only have the Bay Area's natural resources provided sustenance for thousands of years, they have also been a source of raw material for clothing, shelter, medicine, cordage, twined basketry, tools, and boats.[59] 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.[60]

Traditional medicines included the use of black-widow spider webs to close wounds and ground abalone shell or acorns to heal them without scars. Spearmint or castor oil was used to remedy an upset stomach, and a mixture of powdered hot mustard and lard was applied to the forehead to break a fever. Sore throats were treated with tea and flax seed.[61] As with all cultures, the adaptation of traditional lifeways, using more modern materials, allows for a continuation of cultural practices by contemporary people.

Among traditional practices 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.[62] Based on archaeological evidence alone, between 2,500 and 1,000 years ago, many of the bay shore midden sites

[55] Kroeber, A.L. 1955. Nature of the Land-Holding Group. In *Ethnohistory* 2:303–314.

[56] ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.; Tamien Nation. 2022. *Tribal Territories*. Available: https://www.tamien.org/tribal-territories. Accessed: June 23, 2022.

[57] Ibid.

[58] Ibid.

[59] Levy, R. 1978. Costanoan. In *Handbook of North American Indians*, Chapter 8, California, pp. 491–493.

[60] ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.

[61] Ibid.

[62] Ibid.

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. Flexed burials, with the occasional cremation, were the main interment custom during this time period.[63] 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.[64]

Midden mounds have 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."[65] History, religion, and traditional ecological knowledge, among other aspects of culture, are passed from generation to generation through oral histories.

Oral histories throughout west-central California regarding the nature and creation of the universe share a common overarching theme.[66] They relay how modern events and places in nature occurred through the actions of a prehuman race of supernatural beings from a former mythological age. The specific narratives state that each group is linked to its local landscape, which served as a charter, establishing that group's origins and provided them with rights of ownership to their particular territory. Other stories discuss how flooding or wildfires were a consequence of rule-breaking or greed.[67] For the Tamien, Mt. Umunhum (Dove Mountain) is the physical foundation of their oral narrative of the Great Flood. It is considered the Tamien Nation's most sacred landscape.[68]

One of the traditions of public ritual activity within native California identified by Kroeber (1925) is the "secret society and Kuksu dances" practiced from north-central California south to the Salinan language territory (Salinas Valley), including the San Francisco Bay Penutian-speaking Ohlone.[69] This set of dances covers several well-described ceremonial dance traditions, including the northern

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63 Fredrickson, David A. 1973. *Early Cultures of the North Coast of the North Coast Ranges, California*. Ph.D. dissertation, Department of Anthropology, University of California, Davis.

64 Bennyhoff, James A. 1994. Variation within the Meganos Culture. In *Toward a New Taxonomic Framework for Central California Archaeology*, Richard Hughes (ed.), pp. 81–89. Contributions of University of California Archaeological Research Facility No. 52. Berkeley, CA.

65 Tamien Nation. 2022. *Sacred and Cultural Landscapes*. Available: https://www.tamien.org/cultural-resources. Accessed: July 18, 2022.

66 Barrett, Samuel. 1933. Pomo Myths. In *Bulletin of the Public Museum of the City of Milwaukee*, Volume 15, pp. 466–482. Milwaukee, WI; Gayton, Anna H. 1935. Areal Affiliations of California Folktales. In *American Anthropologist* 37(4):588–591; Milliken, Randall T., Laurence H. Shoup, and Beverly R. Ortiz. 2009. *Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today.* Prepared for National Park Service Golden Gate National Recreation Area, San Francisco, CA. On file at California State University, Monterey Bay.

67 Barrett, Samuel. 1933. Pomo Myths. In *Bulletin of the Public Museum of the City of Milwaukee*; Gayton, Anna H. 1935. Areal Affiliations of California Folktales. In *American Anthropologist* 37(4), pp. 582–599; Kelly, Isabel. 1978. Coast Miwok. In *Handbook of North American Indians*, Chapter 8, California. Robert F. Heizer (ed.), pp. 414–425. Smithsonian Institution, Washington, D.C.; Merriam, C. Hart. 1910. *The Dawn of the World: Myths and Weird Tales Told by the Mewan Indians of California*. Arthur H. Clark (ed.), Cleveland, OH; Radin, Paul. 1924. Wappo Texts: First Series. In *University of California Publications in American Archaeology and Ethnology* 19(1):1–147, Berkeley, CA.

68 Tamien Nation. 2022. *Sacred and Cultural Landscapes*.

69 Arellano, Monica V., Alan Leventhal, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, and Charlene Nijmeh. 2021. *An Ethnohistory of Santa Clara Valley and Adjacent Regions*; Milliken, Randall T., Laurence H. Shoup, and Beverly R. Ortiz. 2009. *Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today*, pp. 69 and 70; Kroeber, A.L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology. Bulletin 78, Washington, pp. 855–859.

Ohlone/Costanoan group at Mission San José (variations include the Kuksi among the Tamien).[70] However, it is not known if these dances occurred prior to the Mission period.[71] The Kusku worshipers are the only ones in California who developed a fair number of distinctive disguises and paraphernalia to impersonate spirts and mythic characters. This feature likely evolved within the region as there are no examples in the southwestern or northern Pacific coast areas.[72] Archaeologically, the use of Kuksu "Big Head" (or "N series") abalone shell effigy pendants first appeared around 1,000 years ago and suggests inclusion in the greater ceremonial interaction sphere of the Kuksu religion.[73]

Accounts from the Tamien Nation, and specifically from Josefa Velasquez (b. 1833), are that Kuksui had a large headdress of condor wingtip feathers. The dance was performed in Santa Cruz County near Watsonville, were large headed abalone pendants were found. It is unknown, however, if the pendants are directly associated with Kuksui. According to Tamien Nation Chairwoman Geary, to the Tamien, "Kuksui is a deity, dance, and healing ceremony and does not umbrella over other ceremonies. Each ceremony and dance is separate and can be performed independently. The Kuksui, Kilaki, Sunwele, Tura, Lolei koimei, etc., are different ceremonies often erroneously grouped under Kuksui…Kuksui is a deity with both physical and spiritual forms. He also performs healing rituals. He can even bring a person back to life."

Based on Late-period mortuary sites, including CA-SCL-128, the Thámien Rúmmeytak site in downtown San José, the Santa Clara Valley Ohlone tribal groups likely performed world renewal dance ceremonies and paid great attention to funerary and morning rituals.[74] CA-SCL-128 contains more than 100 ancestral burials and represents a large ancient burial ground. Dancing enabled the participants to open doors between the conscious world and travel to an ongoing supernatural world where the creators resided and enacted mythic dramas. The regalia worn by dancers imbued them with the power of the rituals. Certain natural locations, such as rock formations and springs, were marked nodal points that

[70] Harrington, John P. 1942. Culture Element Distributions: XIX, Central California Coast. In *Anthropological Records* Volume 7, No. 1, University of California Press, Berkeley, CA.

[71] Milliken, Randall T. 1995. *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Region, 1769–1810.* Ballena Press, Menlo Park, CA.

[72] Milliken, Randall T., Laurence H. Shoup, and Beverly R. Ortiz. 2009. *Ohlone/Costanoan Indians of the San Francisco Peninsula and their Neighbors, Yesterday and Today*, p. 69; Kroeber A. L. 1922. Elements of Culture in Native California. In *American Archaeology and Ethnology*. Volume 13, No. 8, pp. 259–328. University of California Press, Berkeley, CA, p.305.

[73] Arellano, Monica V., Alan Leventhal, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, and Charlene Nijmeh. 2021. *An Ethnohistory of Santa Clara Valley and Adjacent Regions*; Leventhal, Alan. 1993. *A Reinterpretation of Some Bay Area Shellmound Sites: A View from the Mortuary Complex at CA-ALA-329, the Ryan Mound.* Unpublished master's thesis, Department of Social Sciences, San José State University; Kroeber, A.L. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology. Bulletin 78, Washington.

[74] Leventhal, Alan, Rosemary Cambra, Monica Arellano, and Emily McDaniel. 2015. *Final Report on the Burial and Archaeological Data Recovery Program Conducted on a Portion of Thámien Rúmmeytak [Guadalupe River Site], (CA-SCL-128/Hyatta Place Hotel) Located in Downtown San Jose, Santa Clara County, California*. Unpublished paper. San José State University.

acted as shrines, areas where ritual performances were particularly effective.[75] The placement of offerings and sharing of food among families at a time of mourning continues to be a common practice among descendent communities, albeit modified and adapted to today's circumstances.[76]

The village Siputca from the Contact period is approximately two miles southeast of the Project Site. This village is within Puichon territory, along lower San Francisquito Creek and near San Francisco Bay.[77] This is likely one of the larger villages that early explorers visited, with 250 inhabitants at San Francisquito Creek.[78]

The arrival of Spanish missionaries and, later, Europeans in general was culturally and otherwise disastrous for traditional Ohlone communities. 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. Members of the Puichon tribelet went to Mission San Francisco between 1781 and 1794 and Mission Santa Clara from 1781 to as late as 1805.

Mission life was devastating to the tribal population.[79] 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.[80] 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.[81]

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75 Bean, L.J. 1975. Power and Its Applications in Native California. In *Journal of California Anthropology* 2(1):25–33; Bean, Lowell J., and Sylvia B. Vane. 1978. Cults and Their Transformations. In *Handbook of North American Indians*, pp 37–57, Chapter 8, California, Robert F. Heizer (ed.), Smithsonian Institution, Washington D.C.; Arellano, Monica V., Alan Leventhal, Sheila Guzman-Schmidt, Gloria E. Arellano Gomez, and Charlene Nijmeh. 2021. *An Ethnohistory of Santa Clara Valley and Adjacent Regions*.

76 ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.

77 Bocek, Barbara. 1992. Subsistence, Settlement, and Tribelet Territories on the Eastern San Francisco Peninsula. In *Proceedings of the Society for California Archaeology* 5; Milliken, Randall T. 1983. *The Spatial Organization of Human Populations on Central California's San Francisco Peninsula at the Spanish Arrival*. Unpublished master's thesis, Department of Anthropology, Sonoma State University, Rohnert Park, CA.

78 Font [1776] in Bolton, Herbert E. (ed.). 1930. *Anza's California Expeditions*. Berkeley, CA: University of California Press; Milliken, Randall T., Laurence H. Shoup, and Beverly R. Ortiz. 2009. *Ohlone/Costanoan Indians of the San Francisco Peninsula and Their Neighbors,* p. 67; Crespí [1769] in Stanger, Frank M., and Alan K. Brown. 1969. *Who Discovered the Golden Gate?* San Mateo County Historical Association, San Mateo, CA.

79 Milliken, Randall T. 1995. *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Region, 1769–1810.* Ballena Press, Menlo Park, CA.

80 Cook, S.F. 1943. The Conflict between the California Indians and White Civilization, I: The Indian Versus the Spanish Mission. In *Ibero-Americana* 21. Berkeley, CA.; Cook, S.F. 1943. The Conflict between the California Indians and White Civilization, II: The Physical and Demographic Reaction of the Non-Mission Indians in Colonial and Provincial California. In *Ibero-Americana* 22. Berkeley, CA; Levy, R. 1978. Costanoan. In *Handbook of North American Indians*, Chapter 8, California, p. 486.

81 ECORP Consulting. September 6, 2022—personal communication between Lisa Westwood and Tamien Nation representatives Quirina Geary, Lillian Luna, Clara Luna, Susana Mesa, Susie Q. Arias, Vidal E. Luna, and Theodore "Mike" Bonillas, Sr.

Mission life also forced Catholic baptism upon Native Americans, who were prohibited (either directly or indirectly, in the interest of survival) from practicing traditional religion. The Tamien, for example, could no longer practice roundhouse religion, and ceremonies had to be moved to other, less appropriate locations.[82]

Formal recognition, assertion, and self-determination began to move to the forefront during the early 20th century. This movement was enforced by legal suits brought by the Indians of California against the United States government (1928–1964) 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.[83]

Historic-Era Setting

City of Menlo Park

In the 1850s, Irish immigrants Dennis Oliver and Daniel McGlynn bought 1,700 acres along County Road, known today as El Camino Real, on the San Francisco Peninsula, approximately 20 miles south of current-day San Francisco. Oliver and McGlynn gave Menlo Park its name when they established "Menlough," a series of local farms named after their ancestral community. A few years later, Menlo Park became a desirable vacation destination for San Francisco's upper class. Palatial houses were constructed on large parcels in the burgeoning community.

El Camino Real served as a major thoroughfare. Historic downtown Menlo Park ultimately developed along this route. Completion of the Southern Pacific Railroad (SPRR) through Menlo Park in 1863, and its connection to San José one year later, exponentially increased Menlo Park's accessibility to city dwellers who were seeking leisure in a rural environment. By 1874, Menlo Park incorporated in response to its rapid growth and infrastructure challenges.[84]

Through the late 19th and early 20th centuries, Menlo Park underwent several transformative events. Stanford University opened in 1891 south of Menlo Park, which strengthened the local economy. From 1907 to 1910, the SPRR constructed the Dumbarton Cutoff Line through northern Menlo Park, which provided a 16.4-mile freight connection from the SPRR San Francisco Peninsula mainline to the Alameda County mainline. A bridge built to carry the Dumbarton Cutoff across San Francisco Bay was the earliest structure to span the Bay. Furthermore, Menlo Park was chosen as the location for Camp Fremont, a World War I–era military training ground that brought in thousands of temporary inhabitants; Menlo Park's population of approximately 2,000 increased to approximately 40,000 during World War I. Numerous new businesses opened, and city improvements were undertaken during camp operations. These improvements remained to serve the growing city after the camp closed.[85]

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82 Ibid.

83 Bean, L.J. 1994. *The Ohlone Past and Present: Native Americans of the San Francisco Bay Region*. Ballena Press, Menlo Park, CA.

84 City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update. June 1. Public review Draft EIR.* Prepared for City of Menlo Park, CA. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: February 21, 2023.

85 City of Menlo Park. 2016. *ConnectMenlo*; P.S. Preservation Services. 1996. *Request for Determination of Eligibility for Inclusion in the National Register of Historic Places, Southern Pacific Railroad Dumbarton Cutoff, Southern Pacific Railroad Dumbarton Bridge, and Southern Pacific Railroad Newark Slough Bridge.* December. Sacramento, CA. Prepared for U.S. Coast Guard.

During the subsequent decades, Menlo Park developed from a small town to an important part of the increasingly urbanized San Francisco Peninsula region. Menlo Park's population rose from 2,414 residents in 1930 to 26,836 by 1970. In the 1920s and 1930s, Menlo Park's transportation infrastructure began to expand outward from downtown with the growth of its residential neighborhoods. By the late 1930s, El Camino Real expanded to four lanes, which resulted in the demolition, relocation, or closure of several Menlo Park structures and businesses. Simultaneously, the Belle Haven neighborhood, approximately 4 miles north of downtown Menlo Park and adjacent to San Francisco Bay, was developed by David D. Bohannon, with two-bedroom homes selling for as little as $2,950.[86]

Development of the entire San Francisco Peninsula continued during the mid-20th century, and Menlo Park became a *de facto* suburb of San Francisco. During this period, Menlo Park became a major technology hub, both regionally and globally. The Stanford Research Institute was established in 1946. By 1970, it was known as SRI International; it remains headquartered in Menlo Park. By the late 1950s, a white-collar industrial development market sprouted in Menlo Park, as in many of the nation's suburbs. Beginning in the 1980s, the rapid expansion of the technology sector increased Menlo Park's popularity. Menlo Park remains a highly sought-after residential community today. Meta (formerly Facebook) continues to expand as a major economic presence in the city, while Silicon Valley, the region that includes northwest Santa Clara County and the southern portions of the San Francisco Peninsula, houses numerous major employers in the information technology industry.[87]

Project Site

The 1125 O'Brien Drive Project site and its immediate vicinity, near San Francisco Bay, in present-day Menlo Park remained largely agricultural until 1955 when local real estate developer Clarence Kavanaugh announced plans for a 40-acre industrial park east of Willow Drive. By 1965, the park contained more than 20 buildings, including two within the current boundaries of the Project site at 1105 O'Brien Drive and 1115–1165 O'Brien Drive. The Kavanaugh Industrial Park was further developed in the 1980s and 1990s; by 1993, it featured more than 35 buildings.[88]

Archaeological Resources

Records Search and Literature Review

To address the Proposed Project's potential to affect archaeological and tribal cultural resources, as defined by CEQA, a records search was completed in 2018 at the Northwest Information Center (NWIC) of the California Historical Resources Information System for the Project site and a 0.25-mile radius. No previously recorded archaeological resources were identified within the Project site. However, one previously recorded archaeological resource was identified within 0.25 mile of the Project site on the nearby Willow Village project site, as detailed below.

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86 City of Menlo Park. 2016. *ConnectMenlo*.

87 Ibid.

88 *San Mateo Times*. 1955. *Industrial Park Planned for East Palo Alto*. January 7; University of California, Santa Barbara Library. 1965. *FrameFinder.* Flight CAS_65_130, Frame 2-169. Available: https://mil.library.ucsb.edu/ap_indexes/FrameFinder. Accessed: February 5, 2021; University of California, Santa Barbara Library. 1993. *FrameFinder*. Flight NAPP_2C, Frame 6358-143. Available: https://mil.library.ucsb.edu/ap_indexes/FrameFinder. Accessed: February 5, 2021.

- **P-41-000160 (CA-SMA-160)** – This resource is recorded as a rich Bay marsh habitation site (also referred to as the Hiller Mound) with burials, features, and artifacts, including fire-cracked rock, chert, ground stone, shell, and pestles. This resource covers an area of approximately 5 acres (Cartier 1978).

No cultural resources studies have been conducted at the Project site. However, six studies have been conducted within 0.25 mile of the Project site, five evaluations and/or testing projects that focused on specific cultural resource sites and one archaeological reconnaissance project.

As stated above, the Project site has not been subject to previous study, and no previously recorded archaeological resources have been identified within the Project site. Although industrial development of the Project site from the mid-1960s through the mid-1990s most likely removed or obscured any surface indicators of an archeological deposit (e.g., stone tools; ground stone; historic-period artifacts such as metal, glass, and ceramics; soil discoloration) that might indicate the presence of archaeological deposits, the presence of P-41-000160 (CA-SMA-160) indicates that the area may have potential sensitivity for subsurface archaeological deposits. Therefore, while historic agricultural and previous development may have removed some archeologic resources, it is possible that as-yet undocumented archaeological resources could be encountered during Project-related ground disturbance.

Assembly Bill 52

The NAHC was requested on September 20, 2019, to perform a search of its Sacred Lands File for information regarding tribal cultural resources in the area and provide a list of Native American representatives who may have relevant information regarding such resources. The NAHC responded on October 3, 2019, stating that its search of the Sacred Lands File did not identify any sensitive areas within the Project area. To identify additional archaeologically sensitive areas and potential tribal cultural resources within the Project area, the NAHC provided a list of six contacts for five Native American tribes. The City contacted these individuals through letters that included Project details, a map, and a request for consultation. The letters solicited responses from each contact, including questions, comments, or concerns regarding the Proposed Project. The letters were sent to the following local California Native American tribes:

- Amah Mutsun Tribal Band
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe

On October 7 and 8, 2019, letters with Project details and a location map were sent to the contacts at all five tribes listed above. On October 31, 2019, each recipient received a follow-up phone call.

- The contacts provided for the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area and The Ohlone Indian Tribe were not reached. Detailed phone messages were left, along with a request for a return phone call.
- The contacts provided for the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area and the Costanoan Rumsen Carmel Tribe were not reached. Phone messages could not be left because the mailbox was full for one contact, and the phone number had been disconnected or was no longer in service for the other contact.

- The Amah Mutsun Tribal Band of Mission San Juan Bautista and the Indian Canyon Mutsun Band of Costanoan had requested additional information regarding the Proposed Project. The information requested was regarding the exact amount of ground disturbance proposed by the Project; the contact received an emailed response the same day.
- The Indian Canyon Mutsun Band of Costanoan contact requested that individuals involved with excavation for the Proposed Project receive sensitivity training and mentioned that monitors from the Amah Mutsun Tribal Band of Mission San Juan Bautista were available. The contact requested to be updated on the progress of the Proposed Project. No additional responses have been received to date.

Because of changes in the Proposed Project, updated letters were sent to the five tribes listed above on April 20, 2021. These letters provided the Project description from the initial notification letter, details about boundary changes at the Project site, and a figure depicting the new Project site. As of January 2023, no responses have been received to date. No tribes have requested consultation as a result of outreach correspondence in 2019 and 2021.

Regulatory Setting

Federal

National Historic Preservation Act, Section 106

Although the Proposed Project is not anticipated to require compliance with Section 106 of the National Historic Preservation Act, the National Register of Historic Places (National Register) and federal guidelines related to the treatment of archaeological resources are relevant for the purposes of determining whether significant archaeological resources, as defined under CEQA, are present and guiding the treatment of such resources.

National Register of Historic Places

The National Historic Preservation Act establishes the National Register, which provides a framework for resource evaluation and informs the process for determining impacts on historical resources under CEQA. The National Register is the nation's official comprehensive inventory of historic resources. Administered by the National Park Service, the National Register includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. Typically, a resource that is more than 50 years of age is eligible for listing in the National Register if it meets any one of the four eligibility criteria and retains sufficient historical integrity. A resource less than 50 years old may be eligible if it can be demonstrated that it is of "exceptional importance" or a contributor to a historic district. National Register criteria are defined in *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation*.

Properties that are listed in the National Register, as well as properties that are formally determined to be eligible for listing in the National Register, are automatically listed in the California Register, described below, and therefore considered historical resources under CEQA.

State

California Environmental Quality Act (Other Than Sections Added by Assembly Bill 52)

CEQA defines a historical resource as a property listed in, or eligible for listing in, the California Register; included in a qualifying local register; or determined by a lead agency to be historically significant. In order to be considered a historical resource, a property must generally be at least 50 years old. Section 21084.1 of the Public Resources Code and Section 15064.5 of the CEQA Guidelines define a historical resource for purposes of CEQA. Archeological resources can also meet the CEQA definition of a historical resource or unique archaeological resource, as defined in CEQA Guidelines Section 21083.2. Under CEQA, archeological resources are called "historical resources" whether they are of pre-contact Native American origin or of historic age.

Unique Archeological Resources

Public Resources Code Section 21083.2(g) defines a unique archeological resource as an object, artifact, or site that:

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

Public Resources Code Section 21083.2 and CEQA Guidelines Section 15064.5 provide further definitions and guidance for archeological sites and their treatment. CEQA Guidelines Section 15064.5 also provides the process and procedures for addressing the existence of, or probable likelihood of, Native American human remains as well as unexpected discovery of human remains during implementation of a project. This includes consultations with appropriate Native American tribes.

CEQA requires lead agencies to determine if a project would have a significant effect on historical resources or unique archaeological resources. If a resource is neither a unique archaeological resource nor a historical resource, the CEQA Guidelines note that the effects of a project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5[c][4]). In addition, projects that comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards) benefit from a regulatory presumption under CEQA that they would have a less-than-significant impact on a historical resource (CEQA Guidelines Section 15126.4[b][1]). Projects that do not comply with the Secretary's Standards may or may not cause a substantial adverse change in the significance of a historical resource and may be subject to further analysis to assess whether they would result in material impairment of a historical resource's significance.

Under CEQA, a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the California Register, the National Register, or a local register or survey that meets the requirements of Public Resources Code Sections 5020.1(k) and 5024.1(g).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and indicating which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (Public Resources Code Section 5024.1[a]). The California Register criteria are based on the National Register criteria (Public Resources Code Section 5024.1[b]). Certain resources are determined by CEQA to be automatically included in the California Register, including California properties that are formally eligible for or listed in the National Register. To be eligible for the California Register as a historical resource, a resource must be significant at the local, state, and/or federal level under one or more of the following evaluative criteria, as defined in Public Resources Code Section 5024.1(c):

1. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. The resource is associated with the lives of persons important in our past.
3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. The resource has yielded, or may be likely to yield, information important in prehistory or history.

As with the National Register, a significant historical resource must possess integrity in addition to meeting the significance criteria to be considered eligible for listing in the California Register. Consideration of integrity for evaluation of California Register eligibility follows the definitions and criteria from National Park Service *National Register Bulletin 15*.

Assembly Bill 52

Tribal cultural resources were originally identified as a distinct CEQA environmental category with the adoption of Assembly Bill (AB) 52 in September 2014. That legislation created a broad, new category for environmental resources, "tribal cultural resources," which must be considered under CEQA. AB 52 requires a lead agency to not only consider the resource's scientific and historical value but also whether it is culturally important to a California Native American tribe. AB 52 defines tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included in or determined to be eligible for inclusion in the California Register; included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k); or determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria of Public Resources Code Section 5024.1(c) (Public Resources Code Section 21074).

AB 52 requires lead agencies to provide notice of the proposed projects to any tribe that is traditionally and culturally affiliated with the geographic area that requested to be informed by the lead agency, following Public Resources Code Section 21080.3.1(b). If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of a project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (a) the parties agree to mitigation measures or (b) any party concludes, after a good-faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change in a tribal cultural resource.

Health and Safety Code Section 7050.5

Health and Safety Code Section 7050.5 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone, the NAHC within 24 hours.

Public Resources Code Section 5097.98

Whenever the NAHC receives notification of a discovery of Native American human remains from a county coroner, pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, Section 5097.98 of the California Public Resources Code stipulates that it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The decedents may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of notification by the NAHC. The recommendation may include scientific removal and nondestructive analysis of the human remains as well as items associated with Native American burials.

Local

Menlo Park General Plan

The Menlo Park Geneal Plan guides development and use of land within the city. Several goals and policies from the Land Use Element, and Open Space/Conservation Element that apply to cultural and tribal cultural resources. The following City General Plan goals and policies relate to cultural resources on the Project site:

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-7.8: Cultural Resource Preservation.** Promote preservation of buildings, objects, and sites with historic and/or cultural significance.[89]

Goal OSC-3: Protect and Enhance Historic Resources. Protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.

[89] City of Menlo Park. 2016. *ConnectMenlo: Menlo Park Land Use and Mobility Update*, *City of Menlo Park General Plan.* Adopted: November 29. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: April 28, 2021.

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 to 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 general plan amendments and land use policy changes.

Policy OSC-3.6: Identification of Potential Historic Resources. Identify historic resources for the historic district in the zoning ordinance and require design review of proposals affecting historic buildings.[90]

Environmental Impacts

This section describes the impact analysis related to cultural and tribal cultural resources for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. As previously discussed in Chapter 1, *Introduction*, the analysis below refers to, and tiers from, the ConnectMenlo Final EIR, where appropriate. This section identifies potential impacts of the Proposed Project and, if necessary, measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a proposed project would have a significant effect if it would result in any of the conditions listed below.

[90] City of Menlo Park. 2013. *Open Space/Conservation, Noise, and Safety Elements, at Home in Menlo Park*, *City of Menlo Park General Plan.* Adopted: May 21. Available: https://menlopark.gov/files/sharedassets/public/community-development/documents/general-plan/open-space-and-conservation-noise-and-safety-elements.pdf. Accessed: April 28, 2021.

Cultural Resources

- Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?
- Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?
- Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Tribal Cultural Resources

- Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as a site, feature, place, or 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:

  a) Listed in or eligible for listing in the California Register or in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k), or

  b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Topics Evaluated in the Initial Study

The Initial Study prepared for the Proposed Project (Appendix 1-1) found the impacts listed below to have less-than-significant impacts or no impact. Therefore, these topics were scoped out from further review in the EIR and are not discussed in this section. Please refer to Appendix 1-1 for additional analysis.

Historical Resources. The Project site contains two buildings, at 1105 O'Brien Drive and 1135–1165 O'Brien Drive, that are more than 50 years old, the age at which they could qualify as eligible for listing in the National Register and California Register. However, none of the historic-aged buildings under investigation are eligible for listing in the National Register and California Register or otherwise qualify as a CEQA historical resource. Redevelopment of the Project site would not alter the significance of a historical resource, as defined in Section 15064.5 of the CEQA Guidelines. Therefore, the Proposed Project would have ***no impact*** on historical resources. No further study is needed.

Human Remains. Although no archaeological or Native American resources were identified within the Project area during the literature review at the NWIC or consultation with California Native American tribes, the Project site has the potential sensitivity for as-yet undocumented archaeological resources. Therefore, the potential exists for previously undiscovered human remains to be encountered during Project demolition or construction, and buried deposits may be eligible for listing in the California Register. However, with implementation of ConnectMenlo EIR Mitigation Measure CULT-4, which provides guidance for the treatment of human remains if encountered during ground disturbance, the Proposed Project would have a ***less than significant with mitigation*** impact on human remains. No further study is needed.

Methods for Analysis

The following section analyzes potential impacts on archaeological resources, as well as tribal cultural resources, that may be caused by construction of the Proposed Project. As discussed above, a records search was conducted at the NWIC of the California Historical Resources Information System in 2018. This search remains valid and covers the current Project site and a 0.25-mile area surrounding the site. In addition, to identify tribal cultural resources within the vicinity of the Project site, the NAHC was contacted on September 20, 2019, and asked to provide a list of California Native American tribes that are geographically affiliated with the Project site.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the following impacts that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[91]

- Impacts related to historical resources were analyzed in the ConnectMenlo EIR as Impact CULT-1 (pages 4.4-12 to 4.9-15). It was determined that impacts on historical resources would be significant if they would lead to demolition or alteration with the potential to change the historic fabric or setting of historic architectural resources. ConnectMenlo Mitigation Measure CULT-1 (page 4.4-15) requires an individual project that is proposed on or adjacent to a site with a building that is more than 50 years old to prepare a site-specific evaluation. The ConnectMenlo EIR did not identify any historical resources within the vicinity of the Project site.
- Impacts related to archaeological resources were analyzed in the ConnectMenlo EIR as Impact CULT-2 (pages 4.4-16 to 4.9-18). It was determined that impacts would be less than significant with implementation of ConnectMenlo Mitigation Measures CULT-2a and CULT-2b. Mitigation Measure CULT-2a would be applied if archeological resources are found during construction. In addition, per Mitigation Measure CULT-2b, Native American tribes would be consulted.
- Impacts related to human remains were analyzed in the ConnectMenlo EIR as Impact CULT-4 (page 4.4-20). It was determined that impacts would be less than significant with implementation of ConnectMenlo Mitigation Measure CULT-4. This mitigation measure would provide guidance if human remains are encountered during ground disturbance.
- Impacts related to tribal cultural resources, as defined by Public Resources Code Section 21074, were analyzed in the ConnectMenlo EIR as Impact CULT-5 (page 4.4-21). Impacts were determined to be less than significant with implementation of ConnectMenlo Mitigation Measures CULT-2a, CULT-2b, and CULT-4 from the ConnectMenlo EIR.

[91] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Menlo Park, CA. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: November 11, 2021.

Impacts and Mitigation Measures

Impact CR-1: Archaeological Resources. The Proposed Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. (LTS/M)

As stated above, a records search at the NWIC revealed that no previously recorded archaeological resources were identified within the Project site; however, one previously recorded archaeological resource, P-41-000160 (CA-SMA-160), was identified within 0.25 mile of the Project site. Additional cultural studies have not been conducted in any portion of the Project site. Therefore, it is unknown whether the Project site contains additional cultural resources. Given the presence of a previously recorded archaeological site within 0.25 mile, there is some potential for the Project site to contain undocumented subsurface archaeological resources.

MITIGATION MEASURES. Compliance with federal, state, and local laws and regulations; ConnectMenlo EIR mitigation measures; and City General Plan goals and policies, as listed above in the *Regulatory Setting* section, would reduce potential Project-related impacts on archaeological resources but would not eliminate the impacts entirely. Therefore, Project Mitigation Measures CR-1.1, Worker Environmental Training, and CR-1.2, Perform Construction Monitoring, Evaluate Uncovered Archaeological Features, and Mitigate Potential Disturbance for Identified Significant Resources at the Project Site, would be required to protect significant archaeological resources. These measures would require archaeological resources sensitivity training for workers, thereby ensuring that archaeological data recovery would occur ahead of Project-related ground disturbance. They would also allow early detection of potential conflicts between development and resources.

The Proposed Project would also implement ConnectMenlo EIR Mitigation Measure CULT-2a if a potentially significant subsurface cultural resource is encountered during ground-disturbing activities. ConnectMenlo EIR Mitigation Measure CULT-2b, which includes Native American consultation, has been implemented for the Proposed Project as part of the CEQA process; no further action is needed. As a result, impacts on archaeological resources would be ***less than significant with mitigation***.

CR-1.1 *Worker Environmental Training.* Because of the potential for the discovery of unknown buried cultural, tribal cultural, archeological, and paleontological resources, prior to commencement of the first phase, the general contractor and those engaged in ground-disturbing activities shall be given environmental training regarding cultural and paleontological resource protection, 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 that 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 as stand-alone training or included as part of the overall environmental awareness training required as a result of 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 paleontologic resources.

CR-1.2 *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). In the event that pre-contact 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, ConnectMenlo CULT-2a 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 ConnectMenlo Mitigation Measure CULT-2a. 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. The archaeologist 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. In the event the 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).

CULT-2a (ConnectMenlo EIR) Stop Work if Archaeological Material or Features Are Encountered during Ground-Disturbing Activities. If a potentially significant subsurface cultural resource is encountered during ground-disturbing activities on any parcel in the city, all construction activities within a 100-foot radius of the find shall cease until a qualified archaeologist determines whether the resource requires further study. All developers in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the CEQA criteria by a qualified archaeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan to capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Menlo Park, Northwest Information Center (NWIC), and State Historic Preservation Office (SHPO), if required.

Impact CR-2: Tribal Cultural Resources. The Proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as a site, feature, place, or 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:

A) Listed or eligible for listing in the California Register or a local register of historical resources, as defined in Public Resources Code Section 5020.1(k), or

B) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (LTS/M)

To identify tribal cultural resources within the Project site, the City contacted six individuals who represent five local California Native American tribes. Letters with Project details, a map, and a request for consultation were sent to all six individuals on October 7 and 8, 2019. On October 31, 2019, each recipient received a follow-up phone call. This notification process was repeated on April 20, 2021, when the Casey Court site was added to the Project. To date, no tribal cultural resources have been identified within the Project site as a result of outreach. However, as discussed above, although no previously recorded archaeological resources have been identified within the Project site or under O'Brien Drive or Adams Court, the presence of P-41-000160 (CA-SMA-160) indicates that the area may have potential for subsurface archaeological deposits. This resource contains rich midden soils, burials, and associated artifacts and is considered a location with tribal cultural resources. The presence of these nearby resources indicates that Project-related ground disturbance has the potential to encounter and damage undocumented deposits associated with CA-SMA-160 or other previously undocumented, but similar, deposits. This impact would be significant. Furthermore, although the encounter of tribal

cultural resources or human remains on the Project site is unlikely because Project construction would occur on previously disturbed areas of the Project site, in the unlikely event tribal cultural resources or humans remains are found, impacts would be significant.

MITIGATION MEASURES. The Proposed Project would require Project Mitigation Measure CR-1.2, which requires archaeological monitoring during ground-disturbing activities. Furthermore, the Proposed Project would implement ConnectMenlo Mitigation Measure CULT-2a if a potentially significant subsurface cultural resource is encountered during ground-disturbing activities. All construction activities within a 100-foot radius would cease until a qualified archeologist determines whether the resource requires further study. In addition, because of the potential for discovery of unknown buried cultural and resources, Project Mitigation Measure CR-1.1 would require worker training prior to construction, thereby further reducing potential impacts. The Proposed Project would also implement ConnectMenlo Mitigation Measures CULT-2a and CULT-4, thereby reducing impacts on pre-contact archaeological resources that have the potential to be considered tribal cultural resources. With implementation of these measures, all work in the immediate vicinity of the discovery would cease, and necessary steps to ensure the integrity of the immediate area would be taken. Therefore, impacts related to tribal cultural resources would be ***less than significant with mitigation***.

CULT-4 *(ConnectMenlo EIR Mitigation Measure) Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site.* Procedures regarding conduct following the discovery of human remains citywide have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, and California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at a 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. Furthermore, 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, which, in turn, will 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 will have 48 hours to make recommendations regarding 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. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC

Cumulative Impacts

Impact C-CR-1: Cumulative Impacts on Archaeological and Tribal Resources and Human Remains. Construction activities on the Project site, along with other past, present and probable future development, would not result in impacts on archaeological and tribal resources and human remains. (LTS/M)

Cumulative impacts on archaeological and tribal cultural resources are considered on a project-specific level by looking at the project area and the immediate surrounding area. This may include resources that extend into or include a project area because impacts on cultural resources are highly localized. That is, multiple projects must be close together to affect the same cultural resource. The cumulative context for archaeological resources and human remains includes urban development projects and transportation and streetscape improvements occurring in or within 0.25 mile of the Project area,

which, together, could lead to ground-disturbing activities that could result in impacts on archaeological resources, human remains, and tribal cultural resources. The past, present, and probable future projects within and surrounding the Project site include projects that would require ground disturbance during construction and, therefore, have the potential to affect archaeological resources, human remains, and tribal cultural resources. Five past, present, and probable future projects are within 0.25 mile of the Project site, as listed below.

- 1075 O'Brien Drive and 20 Kelly Court (CS Bio Phase 3)
- 1315 O'Brien Drive (1350 Adams Court)
- 1430 O'Brien Drive
- 1350 Willow Road (Willow Village Master Plan)
- 1345 Willow Road

Taken together, the Proposed Project and the identified cumulative projects would have the potential to result in an overall significant cumulative impact on archaeological resources, tribal cultural resources, and/or human remains.

A known archaeological resource has been identified within proximity of the Project site. Project Mitigation Measures CR-1.1 and CR-1.2 and ConnectMenlo Mitigation Measures CULT-2a and CULT-4 recommend cultural resources training, archaeological monitoring, and compliance with laws regarding human remains. These measures would reduce the cumulative impacts of the Proposed Project on archaeological resources, tribal cultural resources, and human remains to less-than-significant levels. All other projects in Menlo Park would adhere to the mitigation measures in the ConnectMenlo EIR as well. This would effectively prevent damage to unknown resources at the Project site and under O'Brien Drive and Adams Court. With implementation of mitigation measures, the contribution of the Proposed Project to significant cumulative impacts on archaeological resources, human remains, and tribal cultural resources would be ***less than cumulatively considerable after mitigation***.

Cultural and Tribal Cultural Resources Analysis of the Waterline Upgrades

As described in Chapter 2, *Project Description*, and the 1350 Adams Court EIR,[92] the existing 10-inch water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may develop before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

[92] City of Menlo Park. 2022. *1350 Adams Court EIR*. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

The EIR for the 1350 Adams Court project concluded that while it is unlikely that water main construction would unearth cultural or tribal cultural resources, it is possible that cultural or tribal cultural resources could be discovered, due to the proximity of previously recorded archaeological/tribal cultural resources. Therefore, ground-disturbing activities relating to the construction of the upgraded waterline could disturb unidentified subsurface materials that have the potential to contain archaeological resources, resulting in significant impacts. The Mitigation Monitoring and Reporting Program for the 1350 Adams Court project included measures to address these impacts, including implementation of the ConnectMenlo Final EIR Mitigation Measures CULT-2a, Stop Work in Case of Discovery of Cultural Resources; and CULT-4, Stop Work in Case of Discovery of Human Remains, as well as Project-specific Mitigation Measure CR-1.1, Worker Environmental Training. Therefore, the 1350 Adams Court EIR found that with the implementation of these mitigation measures, the impacts of waterline construction on cultural and tribal cultural resources would be ***less than significant with mitigation.*** The same mitigation measures would be included in the Proposed Project to the extent applicable if the Project Sponsor becomes responsible for waterline construction.

3.7 Biological Resources

This section describes the affected environment and regulatory setting for biological resources as they relate to the Proposed Project. It also describes the potential impacts on biological resources that would result from implementation of the Proposed Project as well as feasible mitigation measures to reduce the impacts. The information provided is based on the Biological Resources section of the General Plan and M-2 Area Zoning Update (ConnectMenlo) environmental impact report (EIR) and the *1125 O'Brien Drive Biological Resources Assessment* (BRA) prepared by WRA, Inc. (WRA).[1] Several subsections were taken verbatim from the BRA, while others were adapted and updated for the EIR. Unless otherwise noted, the information in this section is cited from the BRA prepared by WRA, which is included as Appendix 3.7-1.

No comments relating to biological resources were identified in response to the Notice of Preparation (Appendix 1-2).

Existing Conditions

Environmental Setting

Project Site Setting

The Project site is within a heavily urbanized area of San Mateo County near San Francisco Bay. Specifically, it lies within the northeast portion of the U.S. Geological Survey (USGS) Palo Alto 7.5-minute quadrangle. The Project site is relatively flat, with elevations ranging from approximately 10 to 13 feet above mean sea level. The site is surrounded by dense commercial development with warehousing and light industrial uses; an undeveloped right-of-way for the underground Hetch Hetchy Aqueduct operated by the San Francisco Public Utilities Commission (SFPUC) is also in the area. The entire Project site has been modified for human use and does not support any natural biological communities or sensitive communities. The nearest habitat with potential for sensitive communities occurs 0.34 mile northeast of the Project site.

The 4.12-acre site is dominated by urban land cover, which is composed of three types: developed (3.65 acres), landscaped (0.24 acre), and non-jurisdictional man-made cover, including a partially concrete-lined drainage ditch (0.22 acre).[2] Landscaped areas contain planted trees and low-lying ornamental shrubs; there are currently 40 trees on the Project site. The Natural Resources Conservation Service has mapped soils on the site as Urban Land. This soil type is associated with areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings, or other structures. Soils at the Project site include small areas of Urban Land-Orthents, cut and fill, and Orthents-reclaimed. The soil types at the Project site are not native or hydric, resulting in a high runoff rate.

[1] WRA, Inc. 2020. *1125 O'Brien Drive Development Project Biological Resources Assessment.* Prepared for O'Brien Drive Portfolio, LLC, Menlo Park, CA. December.

[2] Because of rounding, subtotals do not equal total land area of the Project site.

Special-Status Species

The California Environmental Quality Act (CEQA) requires an assessment of the effects of a project on species that are protected as threatened, rare, or endangered. Such species are typically described as *special-status species*. For purposes of the Project's environmental review, special-status species have been defined as described below. Information concerning threatened, endangered, and other special-status species was collected from several sources and reviewed by WRA biologists, as summarized in the BRA. Figures 4 and 5 in the BRA depict the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB) records of special-status plant and wildlife species in the vicinity of the Project site. These maps show areas where special-status species are known to occur or have occurred historically.

Special-Status Plant Species

For purposes of this analysis, special-status plants are considered plant species that are:

- Listed under the federal Endangered Species Act (ESA) as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the California Endangered Species Act (CESA) as threatened, endangered, rare, or a candidate species.
- Listed by the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1A, 1B, 2, 3, or 4. CNPS rankings are as follows:

  1A = Plants presumed extirpated in California and either rare or extinct elsewhere.

  1B = Plants that are rare, threatened, or endangered in California and elsewhere.

  2A = Plants that are presumed extirpated in California but common elsewhere.

  2B = Plants that are rare, threatened, or endangered in California but more common elsewhere.

  3 = Plants about which more information is needed.

  4 = Plants of limited distribution (i.e., a "watch list" species).

  The CRPRs are further described by the following threat code extensions:

  .1 = Species that are seriously endangered in California.

  .2 = Species that are fairly endangered in California.

  .3 = Species that are not very endangered in California.

Based on a review of the resources and databases discussed in Section 3.2.1 of the BRA, 25 special-status plant species have been documented in the vicinity of the Project site. The locations of the 14 special-status plant species listed in the CNDDB and within 5 miles of the Project site are depicted in Figure 4 of the BRA. Appendix 3.7-2 summarizes the potential for occurrences of each special-status plant species in the vicinity of the Project site. Of the potentially occurring special-status plant species, all were determined to be absent from the Project site for at least one of the following reasons:

1. Specific soil types absent;
2. Suitable habitat absent;
3. Invasive, non-native species dominate;
4. Outside geographic range of the species; or
5. Outside known distribution of the species.

Special-Status Animal Species

For purposes of this analysis, special-status animals are considered species that are:

- Listed under the ESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by CDFW as a California Species of Special Concern.
- Listed in the California Fish and Game Code as a Fully Protected species (fully protected birds are covered in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Based on a review of the resources and databases listed in Section 3.2.1 of the BRA, 40 special-status wildlife species have been documented in the vicinity of the Project site.[3] The locations of 28 special-status wildlife species listed in the CNDDB and within 5 miles of the Project site are depicted in Figure 5 of the BRA. Table 3.7-1 in Appendix 3.7-2 summarizes the potential for each of these species to occur within the Project site. Of the 40 special-status species examined, none is considered to have high potential for occurrence on the Project site. One species (white-tailed kite) has moderate potential for occurrence on the Project site and, therefore, is discussed below. The remaining 39 species are considered unlikely to occur or have no potential for occurrence for one or more of the following reasons:

1. Project site is outside the known or historical range of the species;
2. Project site lacks suitable aquatic habitat;
3. Project site lacks suitable foraging or breeding habitat;
4. Project site lacks suitable nesting structures;
5. Project site lacks suitable soil for den development;
6. Project site lacks suitable burrows for occupancy;
7. Project site lacks mine shafts, caves, or abandoned buildings that provide roosting habitat; or
8. There is a lack of connectivity with suitable occupied habitat.

Although the aforementioned factors contribute to the absence of many special-status wildlife species, the Project site was found to have adequate conditions and a locality that warrants a determination of moderate potential for one special-status species (white-tailed kite) to occur. In addition, native nesting birds and roosting bats are protected by the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code, as discussed below.

White-tailed kite (*Elanus leucurus*). White-tailed kite is a CDFW Fully Protected species. This species is found in low-elevation agricultural areas as well as grassland, wetland, oak woodland, and savannah habitats; riparian zones adjacent to open areas are also used. Vegetative structure and prey availability seem to be more important than specific associations with plant species or vegetative communities. Lightly grazed or ungrazed fields generally support large prey populations and are often preferred to other

[3] The following species without special status is tracked in the CNNDB: Santa Cruz kangaroo rat. It occurs in the vicinity of the Project site; however, it is not addressed in this report.

habitats. Kites feed primarily on small mammals, although birds, reptiles, amphibians, and insects are also taken. Nest trees range from single isolated trees to trees within large contiguous forests. Preferred nest trees are extremely variable, ranging from small shrubs (less than 10 feet tall) to large trees (greater than 150 feet tall).[4] Although neither white-tailed kite nor old stick nests of suitable size to support a white-tailed kite were observed during the site visits, suitable nesting habitat for this species is present within the Project site and in the vicinity. Several suitably sized nest trees are located within the Project site, and adjacent properties possess large eucalyptus trees (*Eucalyptus globulus*) that could provide suitable nest sites for this species. Although the Project site itself does not support foraging habitat for this species, open spaces less than 0.5 mile to the north and northeast provide excellent foraging opportunities for small birds and small mammals. Several CNDDB occurrences are within approximately 6 miles of the Project site. As such, white-tailed kite has moderate potential to occur on the Project site.

Regulatory Setting

Federal

Federal Endangered Species Act

The ESA protects federally listed wildlife species from harm or *take*, which is broadly defined as intending to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" or attempting to engage in any such conduct. Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. Furthermore, even an unintentional or accidental activity can be defined as take. Listed plant species are provided less protection than listed wildlife species. Generally, listed plant species are legally protected from take under the federal ESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed threatened and endangered species under the federal ESA. USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under the federal ESA but may become listed in the near future and are often included in review of a project.

Federal Migratory Bird Treaty Act of 1918

The federal MBTA, 16 United States Code Section 703, prohibits the killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests. It also prohibits the possession of all nests of protected bird species, whether they are active or inactive. An active nest is defined as one having eggs or young, as described by USFWS in its June 14, 2018, memorandum "Destruction and Relocation of Migratory Bird Nest Contents." Nest starts (i.e., nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction. In its June 14, 2018, memorandum, USFWS clarified the text regarding destruction of an active nest, as follows: "while conducting any activity where the intent of the action is not to kill migratory birds or destroy their nests or contents." The agency noted that such conduct is not prohibited under the MBTA.

[4] Dunk, J.R. 1995. White-tailed Kite (*Elanus leucurus*). In *The Birds of North America, No. 178*. A. Poole and F. Gill (eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

State

California Endangered Species Act

The CESA (California Fish and Game Code, Chapter 1.5, Sections 2050–2116) prohibits the take of any plant or animal listed as an endangered, threatened, or candidate species. In accordance with the CESA, CDFW has jurisdiction over state-listed species (California Fish and Game Code Section 2070). CDFW regulates activities that may result in take of individuals (i.e., intending to hunt, pursue, catch, capture, or kill or attempting to hunt, pursue, catch, capture, or kill). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code. CDFW, however, has interpreted take to include the "killing of a member of a species that is the proximate result of habitat modification."

California Environmental Quality Act

Section 15380(b) of the CEQA Guidelines provides that a species that is not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. The criteria were modeled after the definitions in the ESA and the CESA as well as the section of the California Fish and Game Code dealing with rare or endangered plants and animals (see below). This section was included in the guidelines to deal primarily with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either USFWS or CDFW or a species that is locally or regionally rare.

CDFW has produced three lists (i.e., amphibians and reptiles, birds, and mammals) of "species of special concern." These serve as "watch lists." Species on the lists are limited in distribution or the extent of their habitats has been reduced substantially such that a threat to their populations may be imminent. Therefore, their populations should be monitored. They may receive special attention during environmental review as potentially rare species but do not have specific statutory protection. All potentially rare or sensitive species, or habitats that are capable of supporting rare species, are considered for environmental review per CEQA Guidelines Section 15380(b).

The CNPS, a non-governmental conservation organization, developed CRPRs for plant species of concern in California in its *Inventory of Rare and Endangered Plants*.[5] Although the CNPS is not a regulatory agency and plants on the lists have no formal regulatory protection, plants appearing on CRPR 1B or 2 are, in general, considered to meet the CEQA Guidelines Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although, because these species are typically not as rare as those of CRPR 1B or 2, impacts on such species are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of plant or animal communities. Vegetation types of "special concern" are tracked in the CNDDB RareFind database. Furthermore, CDFW ranks sensitive vegetation alliances according to their global (G) and state (S) rankings, which are analogous to those provided in the CNDDB. Global rankings of natural communities (G1–G5) reflect the overall condition (i.e., rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as G1–G3, all associations within it would also be high priority. CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations.[6]

[5] California Native Plant Society. 2021. *Inventory of Rare and Endangered Plants* (7.0 and 9.0 online editions). Available: http://www.cnps.org/inventory.

[6] California Department of Fish and Wildlife. 2021. *Vegetation Classification and Mapping Program: Natural Communities List.* Available: http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp.

California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, and blue-line streams on USGS maps, as well as watercourses with subsurface flows, generally fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of Regulations Section 1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as "lands that contain habitat that grows close to and depends on soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At a minimum, CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as U.S. Army Corps of Engineers jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, CDFW regulates any project proposed by any person that will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department or use any material from the streambeds." California Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions to protect fish and wildlife and is subject to CEQA. The Project Sponsor may then proceed with the activity in accordance with the final LSAA.

Certain sections of the California Fish and Game Code pertain to the protection of certain wildlife species. For example, Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian species, except as provided by other sections of the code.

California Fish and Game Code Sections 3503, 3513, and 3800, as well as other sections and subsections, protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by CDFW. Raptors (i.e., eagles, hawks, owls) and their nests are specifically protected in California under Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto."

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that non-game mammals or parts thereof may not be taken or possessed, except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities such as destruction of an occupied roost for a nonbreeding bat resulting in the mortality of non-game mammals, including bats, or disturbances that result in the loss of a maternity colony and the death of young may be considered take by CDFW.

Local

Menlo Park General Plan

The City of Menlo Park (City) General Plan consists of the Open Space/Conservation Element; Noise and Safety Element, adopted May 21, 2013; the 2023–2031 Housing Element, adopted January 31, 2023; and the ConnectMenlo Land Use and Circulation Elements, adopted November 29, 2016. The City General Plan Open Space/Conservation, Noise and Safety, and Land Use and Circulation Elements contain general goals, policies, and programs that would require local planning and development decisions to consider impacts on biological resources. The following goals, policies, and programs from the Land Use and Circulation Element, adopted to avoid or mitigate environmental impacts, are relevant to biological resources and the Proposed Project:

Goal LU-6: Preserve Open Space Lands for Recreation; Protect Natural Resources, as Well as Air and Water Quality; and Protect and Enhance Scenic Qualities.

Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the city's tree canopy and promote sustainability and healthy living, particularly through an increase in the number of trees and the use of water-efficient landscaping in large parking areas and the public right-of-way.

Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already-developed areas.

Program LU-6.D: Design for Birds. Require new buildings to employ façade, window, and lighting design features that make them visible to birds as physical barriers and eliminate conditions that create confusing reflections to birds.

The following policies from the Open Space/Conservation Element of the City General Plan are relevant to biological resources and the Proposed Project:

Goal OSC-1: Maintain, Protect, and Enhance Open Space and Natural Resources.

Policy OSC-1.1: Natural Resources Integration with Other Uses. Protect Menlo Park's natural environment and integrate creeks, utility corridors, and other significant natural and scenic features into development plans.

Policy OSC-1.3: Sensitive Habitats. Require new development on or near sensitive habitats to provide baseline assessments prepared by qualified biologists and specify requirements relative to the baseline assessments.

Policy OSC-1.4: Habitat Enhancement. Require new development to minimize the disturbance of natural habitats and vegetation and require revegetation of disturbed natural habitat areas with native or non-invasive naturalized species.

Policy OSC-1.5: Invasive, Non-Native Plant Species. Avoid the use of invasive, non-native species, as identified on the lists of invasive plants maintained at the California Invasive Plant Council and U.S. Department of Agriculture, or other authoritative sources, in landscaping on public property.

Policy OSC-1.11: Sustainable Landscape Practices. Encourage the enhancement of boulevards, plazas, and other urban open spaces in high-density and mixed-use residential developments, as well as commercial and industrial areas, with landscaping practices that minimize water usage.

Policy OSC-1.12: Landscaping and Plazas. Include landscaping and plazas on public and private lands and well-designed pedestrian and bicycle facilities in areas of intensive non-vehicular activity. Require landscaping for shade, surface runoff, or obscuring parked cars in extensive parking areas.

Policy OSC-1.13: Yard and Open Space Requirements in New Development. Ensure that required yard and open spaces are provided for as part of new multi-family residential, mixed-use, commercial, and industrial development.

Policy OSC-1.15: Heritage Trees. Protect heritage trees, including during construction, through enforcement of the Heritage Tree Ordinance (Section 13.24 of the Menlo Park Municipal Code).

Menlo Park Municipal Code

The Menlo Park Municipal Code contains ordinances for Menlo Park. Title 16, Zoning, includes regulations relevant to biological resources on the Project site, as discussed below.

Bird-Friendly Design. All new construction, regardless of size, is required to comply with the City bird-safe design requirements provided in Menlo Park Municipal Code Section 16.44.130(6) (with respect to the LS district). These design requirements include appropriate measures to reduce bird collisions, as follows:

A. No more than ten percent (10%) of the façade surface area shall have non-bird-friendly glazing.

B. Bird-friendly glazing includes, but is not limited to, opaque glass, covering the outside surface of clear glass with patterns, paned glass with fenestration, frit or etching patterns, and external screens over nonreflective glass. Highly reflective glass is not permitted.

C. Occupancy sensors or other switch control devices shall be installed on nonemergency lights and shall be programmed to shut off during nonwork hours and between ten (10) p.m. and sunrise.

D. Placement of buildings shall avoid the potential funneling of flight paths towards a building façade.

E. Glass skyways or walkways, free-standing (see-through) glass walls and handrails, and transparent building corners shall not be allowed.

F. Transparent glass shall not be allowed at the rooflines of buildings, including in conjunction with roof decks, patios and green roofs.

G. Rodenticides shall not be allowed.

H. A project may receive a waiver from one (1) or more of the items listed in subsections (6)(A) through (F) of this section, subject to the submittal of a site specific evaluation from a qualified biologist and review and approval by the Planning Commission.

Landscape Design Plan. Menlo Park Municipal Code Section 12.44.090(a)(1)(G) states that the use of invasive or noxious plant species is strongly discouraged. Invasive species are defined as plants not historically found in California that spread outside cultivated areas and damage environmental or economic resources. A noxious weed refers to any weed designated by weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

Heritage Trees. The Proposed Project would be subject to Menlo Park Municipal Code Section 13.24, which establishes regulations for the preservation of heritage trees. Section 13.24 defines *heritage trees* as:

- Trees of historical significance, special character, or community benefit specifically designated by resolution of the City Council;
- An oak tree (*Quercus* sp.) that is native to California and has a trunk circumference of 31.4 inches (i.e., a diameter of 10 inches) or more, as measured at 54 inches above the natural grade; and
- All trees other than oaks that have a trunk circumference of 47.1 inches (i.e., a diameter of 15 inches) or more, as measured at 54 inches above the natural grade, with the exception of trees that are less than 12 feet tall, which are exempt from this section.

To protect heritage trees, Section 13.24.030 of the Menlo Park Municipal Code requires a tree protection plan prepared by a certified arborist to be submitted for any work performed within a tree protection zone, which is an area 10 times the diameter of the tree. Furthermore, all tree protection plans should be reviewed and approved by the Director of Public Works or his or her designee prior to issuance of any permit for grading or construction.

The removal of heritage trees or pruning of more than one-fourth of the branches or roots within a 12-month period requires a permit from the City's Director of Public Works or his or her designee and payment of a fee. The Director of Public Works may issue a permit when the removal or major pruning of a heritage tree is reasonable, based on considerations such as the condition of the tree, the need for removal (e.g., to accommodate proposed improvements), the ecological and long-term value of the tree, and feasible alternatives that would allow for tree preservation.

City Heritage Tree Removal permits are processed following the approval of the Certification of the EIR and the approval of the Project. This means that the actual Project impacts could potentially be less than described in this Chapter if any of the existing heritage trees are required to be protected as a condition of approval of a Heritage Tree Removal Permit.

Environmental Impacts

This section describes the impact analysis related to biological resources for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.?

- Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?
- 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?
- Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- 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?

Methods for Analysis

The analysis below is based on the BRA prepared by WRA for the Proposed Project. The BRA was prepared in conformance with ConnectMenlo EIR Mitigation Measure BIO-1, which requires preparation of a BRA, as specified by the specific conditions of the mitigation measure.

The identification of potential impacts on biological resources relied on a review of relevant Project information, scientific literature, and technical databases as well as site visits. Prior to conducting initial fieldwork, WRA biologists reviewed the Project plans provided by the Project Sponsor as well as aerial images,[7] the CNDDB,[8] and other relevant scientific literature and technical databases listed in Section 3.2.1 of the BRA.[9] For plants, WRA reviewed all species on current CNPS[10] CRPR 1A, 1B, 2A, and 2B lists occurring in the USGS Palo Alto 7.5-minute quadrangle. Because quadrangle-level results are not maintained for CRPR 3 and 4 species, a search was also conducted of CNPS records for occurrences of these species in San Mateo County. In addition to the BRA, previous reports prepared for the Project site and vicinity were reviewed by ICF, including the *Biological Resources* section of the ConnectMenlo EIR and the Initial Study for the 1125 O'Brien Drive Project.

The Project site was evaluated for the purpose of ensuring that all potential direct, indirect, and cumulative effects on biological resources would be considered. Site visits were conducted by biologists from WRA on August 1, 2019, and October 6, 2020. The purpose of the surveys was to provide a Project-specific impact assessment for the Proposed Project, as described above. Specifically, surveys were conducted to determine (1) the plant communities present within the Project site, (2) if existing conditions provided suitable habitat for any special-status plant or wildlife species, and (3) if sensitive habitats were present.

[7] Google, Inc. 2020. *Google Earth* (version 7.3.2.5776). Available: http://www.earth.google.com.

[8] California Department of Fish and Wildlife. 2020. *California Natural Diversity Database*. RareFind 5.0. Available: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed: October 2020.

[9] Literature and database searches from the BRA were accessed in 2020 at the time of the NOP release. Since 2020, the existing project conditions have remained the same given the Project site is currently developed and in use.

[10] California Native Plant Society. 2020. *Inventory of Rare and Endangered Plants*. Available: http://www.cnps.org/inventory. Accessed: October 2020.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the following impacts that would result from implementing the updates to the Land Use and Circulation Element and the M-2 Area Zoning Update:[11]

- Impacts related to special-status species or the inadvertent loss of bird nests in active use were analyzed in the ConnectMenlo EIR as Impact BIO-1 (pages 4.3-19 to 4.3-23) and found to be less than significant with mitigation incorporated. The impact could be significant because special-status species have the potential for occurrence in the remaining undeveloped lands in the Bayfront Area and, much more infrequently, in the semi-natural (e.g., ditch, annual grassland) portions of Menlo Park where construction with future development allowed under the City General Plan could occur. Implementation of ConnectMenlo Mitigation Measure BIO-1 would reduce the impact to less than significant by requiring preparation of a project-specific baseline BRA from a qualified biologist for sites containing natural habitat (e.g., mature and native trees), unused structures that could support special-status species and other sensitive biological resources, as well as common birds protected under the MBTA. If sensitive biological resources are determined to be present, measures such as pre-construction surveys, buffers, and bird-safe design practices and materials, as developed by the qualified biologist, would provide adequate avoidance or compensatory mitigation if avoidance is infeasible. Where jurisdictional waters or federally or state-listed species would be affected, appropriate authorization would be obtained by the Project Sponsor.
- Impacts related to the loss of coastal salt marsh vegetation in the Baylands and possibly areas of riparian scrub and woodland along San Francisquito Creek and other drainages in the area were analyzed in the ConnectMenlo EIR as Impact BIO-2 (pages 4.3-24 and 4.3-25) and found to be less than significant with mitigation incorporated. Implementation of ConnectMenlo Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point.
- Impacts related to the loss of wetland habitat in the area were analyzed in the ConnectMenlo EIR as Impact BIO-3 (pages 4.3-25 and 4.3-26) and found to be less than significant with mitigation incorporated. Implementation of ConnectMenlo Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point above.
- Impacts related to the movement of fish and wildlife, wildlife corridors, or wildlife nursery sites in the area were analyzed in the ConnectMenlo EIR as Impact BIO-4 (page 4.3-26) and found to be less than significant with mitigation incorporated. Implementation of ConnectMenlo Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point above.
- Impacts related to conflicts with local policies and ordinances for the area were analyzed in the ConnectMenlo EIR as Impact BIO-5 (page 4.3-27) and found to be less than significant because the City General Plan is the overriding planning document for Menlo Park, and the proposed amendments analyzed under the ConnectMenlo EIR would ensure internal consistency between the City General Plan and the City Zoning Ordinance. Furthermore, with adherence to City General Plan goals, policies, and programs in the Land Use and Circulation Element, Open

[11] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo. Accessed: March 17, 2022.

Space/Conservation Element, and the Noise and Safety Element, as well as the City's Tree Preservation Ordinance, in combination with Menlo Park Municipal Code Chapters 12.44, Water-Efficient Landscaping, and 13.24, Heritage Trees, along with federal and state laws, no conflicts with local plans and policies were anticipated, and impacts were determined to be less than significant.

- Impacts related to conflicts with an adopted habitat conservation plan, natural community conservation plan, or other local, regional, or state habitat conservation plan in the area were analyzed in the ConnectMenlo EIR as Impact BIO-6 (pages 4.3-27 to 4.3-28) and found to be less than significant with mitigation incorporated. Implementation of ConnectMenlo Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point above.

Topics Evaluated in the Initial Study

The Initial Study prepared for the Proposed Project (Appendix 1-1) found that the topics listed below would result in less-than-significant impacts or no impact. Therefore, these topics were scoped out from further review in the EIR and are not discussed in this section. Refer to Appendix 1-1 for additional analysis.

Impacts on Riparian Habitat or Other Sensitive Natural Communities. The Project site does not contain any riparian habitat or sensitive natural communities, as determined by the BRA. Therefore, the Proposed Project would have ***no impact*** on such resources, and no further evaluation is needed.

Impacts on State or Federally Protected Wetlands. The Project site does not contain any state or federally protected wetlands or non-wetland waters of the United States that are subject to U.S. Army Corps of Engineers jurisdiction under Section 404 of the Clean Water Act, and no such features are present adjacent to the site. However, indirect impacts on nearby wetlands or non-wetland waters could occur from site runoff. Compliance with the National Pollutant Discharge Elimination System Construction General Permit and the Regional Water Quality Control Board–required stormwater pollution prevention plan to control the discharge of stormwater pollutants during construction, as well as post-construction measures and design features required by the Municipal Regional Permit, would reduce the Proposed Project's impacts to a ***less-than-significant*** level. Therefore, no further study is needed.

Conflicts with Local Policies or Ordinances Protecting Biological Resources. The Project site contains 40 trees, 13 of which meet the City's definition of a heritage tree; some of these trees are proposed for removal. However, the Proposed Project would meet the City's bird-friendly design standards and the requirements of City ordinances for protecting heritage trees. Therefore, this impact would be ***less than significant***, and no further study is needed.

Conflict with an Adopted Habitat Conservation Plan or Natural Community Conservation Plan. The Project site is not within a geographic area covered by an adopted habitat conservation plan or natural community conservation plan. The closest such plan is the Stanford Habitat Conservation Plan for an area in the Matadero/Deer Creek and San Francisquito Creek watersheds, approximately 6 miles to the south. Therefore, because the Project site is not covered by an adopted habitat conservation plan, the Proposed Project would have ***no impact*** on the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. No further study is needed.

Project Impacts and Mitigation Measures

Impact BIO-1: Impacts on Special-Status Species. The Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species that have been identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations. (LTS/M)

The Project site has no potential to support special-status plant species because of the site's urban setting and consequent lack of the natural communities to which these species are adapted. Most special-status plant species in the vicinity are associated with the extensive tidal marshes or salt pond complexes adjacent to San Francisco Bay. These habitats occur about half a mile from the Project site. The distributions of the species are limited by specific environmental requirements (e.g., moisture, salinity, topography, soil types, vegetation structure) that do not occur in an urban environment. Therefore, the Proposed Project is not expected to affect any special-status plant species.

As noted in the BRA prepared for the Project, the Project site has no potential to support special-status wildlife species, except for the white-tailed kite. White-tailed kite individuals, which are a CDFW Fully Protected species, could nest on or in the vicinity of the Project site. Several CNDDB occurrences occur within approximately 6 miles of the Project site. Although the Project site itself does not support foraging habitat for this species, open spaces half a mile to the north and northeast provide excellent foraging opportunities for small birds and small mammals. In addition, the trees onsite are considered suitable nesting habitat for tree-nesting raptors such as Cooper's hawk and red-shouldered hawk. These common species have not been identified as candidate, sensitive, or special-status species by the USFWS or CDFW; however, tree-nesting raptors have been identified and are considered to be special-status species by a local plan (i.e., ConnectMenlo EIR).

MITIGATION MEASURES. If the Project is implemented during the nesting season (February 1 through August 31), Project construction activities associated with development—such as vegetation removal, tree removal, and ground disturbance—would have the potential to affect avian species during their breeding season. This could result in direct mortality for young or adult tree-nesting raptors, including white-tailed kite; the destruction of active nests; and/or disturbance of nesting adults, causing nest abandonment and/or loss of reproductive effort. Because all tree-nesting raptors are considered special-status species under ConnectMenlo Mitigation Measure BIO-1, this would be a significant impact. To implement Mitigation Measure BIO-1, a BRA was prepared for the Project, which recommended project-specific measures. Project Mitigation Measures BIO-1.1, Avoid the Bird Nesting Season or Conduct Pre-Construction Nesting Bird Surveys, and BIO-1.2, Inhibition of Nesting, would be required to prevent significant impacts on special-status species. The measures would require construction-related activities, such as vegetation removal, grading or other ground disturbances, and nesting substrate removal, to be conducted outside the nesting season. They would also require pre-construction nesting bird surveys to be conducted, thereby ensuring that special-status species and nesting birds would be protected. With implementation of Project Mitigation Measures BIO-1.1 and BIO-1.2, the Proposed Project would not affect special-status species. Therefore, Impact BIO-1 would be ***less than significant with mitigation***. The Project would implement the following Project mitigation measures, as outlined in the BRA prepared for the Project (Appendix 3.7-1):

BIO-1.1 *Avoid the Bird Nesting Season or Conduct Pre-Construction Nesting Bird Surveys.* Project activities such as vegetation removal, grading, or initial ground disturbance shall be conducted, or at least commenced, outside the nesting season, (September 1 through January 31) to the extent feasible. If Project activities must be conducted during the nesting season (February 1 through August 31), a pre-construction nesting bird

survey will be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. The survey will include the Project area and the immediately adjacent area (typically 300 feet for raptors and 100 feet for other species) to identify the location and status of any nests that could be affected either directly or indirectly by Project activities.

If active nests of native nesting bird species are located where construction activities could adversely affect nesting, a work exclusion zone shall be established by the qualified biologist around each nest. Established exclusion zones will remain in place until all young in the nest have fledged or the nest becomes otherwise inactive (e.g., due to predation). Appropriate exclusion zone sizes will be determined by a qualified biologist and will vary, based on species, nest location, existing visual buffers, noise levels, and other factors. An exclusion zone radius may be as small as 50 feet for common, disturbance-adapted species or as large as 300 feet for kites. Exclusion zone sizes will be reduced by a qualified biologist from established levels if nest monitoring indicates that Project activities will not adversely affect a nest and the reduced exclusion will not adversely affect a nest. After the nesting effort is complete, the tree can be removed.

BIO-1.2 *Inhibition of Nesting.* If construction activities begin during the nesting season, all potential nesting substrates, (e.g. trees, shrubs, grasses, and other vegetation), that are proposed for removal must be removed outside the nesting season (i.e., outside February 1 through August 31), which would preclude the initiation of nests in trees and other nesting substrates; unoccupied trees and other nesting substrates can be removed anytime following a pre-construction nesting survey.

Impact BIO-2: Impacts on Wildlife Movement and Native Wildlife Nursery Sites. The removal of buildings, trees, shrubs, or woody vegetation would not affect the nesting habitat of native resident and migratory birds. (LTS/M)

The Project site contains 40 trees; 38 of these trees are proposed for removal, however up to four protected trees could remain. The City of Menlo Park requires replacement of protected trees in the event that the tree is damaged beyond repair during construction. Project activities would be within an already-developed footprint that is surrounded by existing development and absent sensitive natural communities and habitats. Nonetheless, the trees on the Project site support regionally common, urban-adapted breeding birds, representing a very small proportion of the species' regional populations. These birds are habituated to disturbances related to existing conditions at the Project site. Moreover, the ornamental trees currently on the Project site are considered suitable nesting habitat for tree-nesting raptors such as white-tailed kite, Cooper's hawk, and red-shouldered hawk as well as native resident and migratory birds that are protected under the MBTA and California Fish and Game Code. WRA biologists examined trees for evidence of nesting by raptors (e.g., old stick nests), but none was observed. However, the removal of ornamental trees as part of the Project could affect the nesting habitat of common birds, protected native and migrating birds, and tree-nesting raptors.

Construction-related disturbances and tree removal during the avian breeding season (February 1 through August 31 for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly through nest abandonment, which would be considered a significant impact. To ensure that disturbances that would result in the abandonment of active nests or broods or the loss of active nests through vegetation or structure removal would not occur, implementation of Project Mitigation Measures BIO-1.1 and BIO-1.2 would be required. These Project-specific mitigation measures would prevent significant impacts on native wildlife nursery sites by requiring

construction-related activities, such as vegetation removal, grading or other ground disturbances, and potential nesting substrate removal, to be conducted outside the nesting bird season. They would also require pre-construction nesting bird surveys to be conducted, thereby ensuring that special-status species and nesting birds would be protected. Impacts on nesting birds would be ***less than significant with mitigation***.

The Project also includes planting 113 new trees (including 12 street trees), for a total of 115 trees, and additional landscaping, which would provide some food and structural resources for tree-nesting raptors; common, urban-adapted birds of the area; and migrants that may use the area during spring and fall migration after the Project is complete, which could be a beneficial impact. However, the proposed buildings at the Project site could result in avian collision risks, as discussed in the BRA. Specifically, birds at the Project site could be affected by new buildings and other structures with significant glass façades. Because birds do not necessarily perceive glass as an obstacle,[12] windows or structures that reflect the sky, trees, or other habitat may not be perceived as obstacles; therefore, birds may collide with them. Transparent windows can result in collisions when birds perceive an unobstructed flight path (e.g., at corners) or when the combination of transparent windows and interior vegetation results in attempts by birds to fly through the glass to reach the vegetation.

Several factors play a role in determining the risk of bird collisions, including the amount and type of glass used, glazing, lighting, the properties of the building (e.g., size, design, and orientation), type and location of vegetation around the building, and building location. Foggy conditions may exacerbate collision risks because birds may be even less able to perceive glass in the fog. The highest collision risk would most likely occur when inclement weather enters the region on a night with heavy bird migration, with clouds and fog making it difficult for birds to find high-quality stopover sites once they reach ground level. The Proposed Project would be required to comply with the City's bird-safe design requirements (as described above under *Regulatory Setting*), which would reduce the risk of avian collisions on the Project site. The requirements would reduce the use of reflective surface facades such as transparent glass or non-bird-friendly glazing. Through compliance with City requirements, impacts due to bird collisions with buildings and other structures would be ***less than significant.***

Cumulative Impacts

Impact C-BIO-1: Cumulative Biological Resources Impacts. Cumulative development would not result in a significant cumulative impact on biological resources. (LTS/M)

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the potential for cumulative impacts that could result from implementing the updates to the Land Use and Circulation Element and the M-2 Area Zoning Update in combination with other past, present, and probable future projects in Impact BIO-7 (pages 4.3-28 and 4.3-29). The ConnectMenlo EIR found that potential impacts on biological resources from proposed development tend to be site specific. The overall cumulative effect depends on the degree to which significant vegetation and wildlife resources are protected on a particular site. To some degree, cumulative development contributes to an incremental reduction in the amount of wildlife habitat, particularly for birds and larger mammals.

[12] Sheppard, C., and G. Phillips. 2015. *Bird-Friendly Building Design*. Second edition. The Plains, VA: American Bird Conservancy. Available: https://abcbirds.org/wp-content/uploads/2015/05/Bird-friendly-Building-Guide_2015.pdf. Accessed: March 15, 2022.

New development in the region could result in further conversion of natural habitats to urban and suburban conditions, thereby limiting the existing habitat values of the surrounding area. However, the ConnectMenlo EIR determined that biological assessments for future projects involving development on or near sensitive habitats, as required under ConnectMenlo EIR Mitigation Measure BIO-1 and City General Plan policies and zoning regulations, would ensure that important biological resources would be identified, protected, and properly managed, thereby preventing any significant adverse development-related impacts, including impacts from development of the remaining undeveloped lands in the planning area and surrounding incorporated and unincorporated areas. Therefore, implementation of ConnectMenlo EIR Mitigation Measure BIO-1 would reduce cumulative impacts to ***less than significant with mitigation***.

Biological Resources Analysis of Waterline Upgrades

As described in Chapter 2, *Project Description*, and the 1350 Adams Court EIR,[13] the existing 10-inch water mains along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property need to be upsized prior to occupancy of any new buildings within the life sciences service area along O'Brien Drive and vicinity. The 1350 Adams Court EIR included the water main upgrades as part of that project and analyzed their construction impacts. It is possible that the Proposed Project may develop before the 1350 Adams Court Project; therefore, the CEQA analysis of watermain construction impacts and required mitigation measures contained in the certified 1350 Adams Court EIR, as they relate to the potential need to upgrade one or more of the water mains as part of the Proposed Project, are incorporated into this EIR by reference. Installation of the upgraded waterline(s) would be required as a condition of approval for the Proposed Project if it is constructed before the 1350 Adams Court project.

The EIR for the 1350 Adams Court Project determined that construction of the waterlines would occur within existing roadways, which do not contain biological resources, and no additional trees or other vegetation would be removed. Because the 1350 Adams Court EIR found that that project could have a significant impact on biologic resources, it identified the following mitigation measures to reduce the impact to a less that significant level from the 1350 Adams Court Project Mitigation Monitoring Program; Mitigation Measures BR 1, Nesting Bird Avoidance; BR-2, Preconstruction/Pre-disturbance Surveys; BR-3, Active Nest Buffers; and BR-4, Inhibition of Nesting. The EIR recommended applying the same mitigation measures to the waterline work, as appropriate and needed, to reduce potential impacts on white-tailed kite and tree-nesting raptors if construction activities occur during the nesting season. The EIR for the 1350 Adams Court project found that the impact of the waterline upgrades on biological resources would be ***less than significant with mitigation.***

[13] City of Menlo Park. 2022. 1350 Adams Court EIR. Section 3.2, Air Quality. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

Chapter 4
Other CEQA Considerations

As required by the California Environmental Quality Act (CEQA), this chapter discusses the following types of impacts that could result from implementation of the Proposed Project: growth-inducing impacts, significant irreversible changes, effects found not to be significant, and significant and unavoidable effects.

4.1 Growth Inducement

Section 15126.2(e) of the CEQA Guidelines states that an environmental impact report (EIR) should 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 how a project could increase population, employment, or housing in the areas surrounding a project as well as an analysis of the infrastructure and planning changes that would be necessary to implement a project.

This EIR discusses the manner in which the Proposed Project could affect growth in the city and the larger Bay Area. In accordance with the CEQA Guidelines, Section 15126.2, the discussion of growth inducement is not intended to characterize the Proposed Project as necessarily beneficial, detrimental, or of little significance to the environment. This growth-inducement discussion is provided for informational purposes so that the public and local decision-makers have an appreciation of the potential long-term growth implications of the Proposed Project. Although CEQA requires disclosure of growth-inducement effects, an EIR is not required to anticipate and mitigate the effects of a particular project on growth in other areas. 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.

In discussing growth inducement, it is useful to distinguish between direct and indirect growth. Direct growth occurs on a project site as a result of new facilities (buildings) being constructed or an increase in developed space. As discussed in Chapter 2, *Project Description*, direct growth associated with the Proposed Project would amount to 131,825 gross square feet (gsf) of development for research-and-development (R&D) uses.

Indirect growth occurs beyond a project site but is stimulated by a project's direct growth. Indirect growth is tied to increased direct and indirect investment and spending associated with the new direct growth. For example, if a project were implemented, future workers would spend money in the local area, and the expenditure of that money would result in additional jobs. The indirect jobs generated by a project (referred to as the "multiplier effect") tend to be relatively close to places of employment but may occur at more distant locales as well. In addition, a project that would require the extension of certain utilities could indirectly induce growth in adjacent areas that were previously undeveloped. When CEQA refers to induced growth, CEQA means all growth—direct, indirect, and otherwise defined.

As discussed in Section 3.5, *Population and Housing*, and the Initial Study (Appendix 1-1), the Project site currently has 143 employees[1] and no housing units. Therefore, no housing would be displaced as a result of the Proposed Project. Although 143 employees currently work at the Project site, they could be accommodated at other job sites within Menlo Park or the larger region. In addition, the displacement of jobs and the associated financial implications are not considered environmental impacts and are therefore not required to be evaluated under CEQA.

With implementation of the Proposed Project, the site would be occupied by a total of approximately 328 employees. Therefore, a total of 185 net new employees (328 new less the 143 estimated current employees) would be generated by the Proposed Project; this, in turn, would generate demands for new housing in the city and region. This anticipated regional growth due to the Proposed Project was planned and analyzed in ConnectMenlo and consistent with the city's General Plan goals. As discussed in Section 3.5, *Population and Housing*, between 2020 and 2040, the indirect housing demand generated by the Proposed Project would be 0.02 percent of the projected housing growth in the Bay Area, 0.29 percent of projected housing growth in San Mateo County, and 0.8 percent of projected housing growth in the city. Overall, on a regional basis, the Proposed Project's demand for housing would not represent a significant share of the total housing growth projected by the Association of Bay Area Governments (ABAG). Therefore, development associated with the Proposed Project would be generally consistent with and was considered by the City's adopted general plan and included in regional ABAG projections. Therefore, the adopted general plan considered the direct job growth and the indirect induced housing demand that would result from implementation of the Proposed Project.

As discussed in Section 3.5*, Population and Housing*, the increase in employment at the Project site would result in an increase in housing demand and addition of new residents to the city and other jurisdictions in the region. Assuming the county's average of approximately 1.91[2] employees per worker household, the Proposed Project would generate a demand for up to 97 housing units to support employment from the Proposed Project.[3] On average, approximately 5.9 percent of the city's workforce also resides in the city; however, only 3.8 percent of employees who currently work on the Menlo Park Labs campus live in Menlo Park. Given these numbers, it is conservatively assumed that up to 5.9 percent of the employees generated by the Proposed Project would seek and find housing in the city. Thus, approximately 11 of the projected number of employees at the Project site would be expected to live in the city.[4] Given an average of 1.91 workers per household, the Proposed Project could generate a demand for four[5] to six[6] new housing units in the city.

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1 Keyser Marston Associates, Inc. 2021. *Housing Needs Assessment, 1125 O'Brien Drive Project*. December.

2 In making the translation from the estimated number of Project employees to the estimated number of housing units in demand, the analysis in the health needs assessment and this section considers multiple-earner households. Multiple-earner households, which have two or more workers, take a variety of forms, such as roommates and housemates, couples, and multi-generational households. The specific factor of 1.91 workers per worker household is the average number of workers in each working household in San Mateo County, as derived from U.S. Census Bureau data (2015–2019 American Community Survey).

3 The 97 new housing units required to support the Proposed Project = 185 employees/1.91 workers per housing unit.

4 The 185 Project employees × 5.9 percent of Project employees who would live in the city = 11 Project employees who would live in the city.

5 The 97 total new households × 3.8 percent (Menlo Park Labs campus average) = four units.

6 The 97 total new households × 5.9 percent (city average) = six units.

As stated above, approximately 5.9 percent of the city's workforce also resides in the city, but only 3.8 percent of employees who currently work on the Menlo Park Labs campus live in the city. Using these numbers, with an average persons-per-household (pph) ratio of 2.6, the Proposed Project could generate approximately 11 to 16 new residents within Menlo Park.

Approximately 44,530 residents lived within the city's sphere of influence in 2020. According to ABAG projections, the population is projected to increase to approximately 54,920 by 2040. This represents an increase of 10,390 new residents over 20 years. The addition of up to 16 new residents in the city as a result of the Proposed Project would represent approximately 0.15 percent of the anticipated population growth within the city between 2020 and 2040.[7]

The Proposed Project's development of a life sciences use, rather than housing, in the context of the city's already high jobs/housing ratio does not further the balanced-growth objectives of Plan Bay Area. Plan Bay Area represents a transportation and land use/housing strategy for how the Bay Area will address its transportation mobility and accessibility needs, land development, and greenhouse gas (GHG) emissions reduction requirements through 2040. This manifests in upward pressure on housing demand because of low supply, which, in turn, results in workers seeking housing farther and farther away from the Project site. However, residential uses are not permitted within the Life Sciences land use and zoning designations, and the projections provided by Plan Bay Area are based on existing planning documents, which includes the General Plan and M-2 Area Zoning Update (ConnectMenlo) and therefore any development, including life sciences, at the Project site. In addition, as discussed below, it is not possible to predict with certainty whether the percentage of employees both living and working in the city will be maintained in the future, nor it is possible to predict accurately exactly where employees from outside the city might live.

Employees of the Proposed Project could be housed throughout the region. As stated above, it is anticipated that 5.9 percent of the employees generated by the Proposed Project would live in the city. The remaining employees would very likely find housing throughout the region, with the majority living in San Mateo, Santa Clara, and San Francisco Counties and a small percentage living outside the region in outlying areas. Alternatively, more local housing could be provided by cities within San Mateo County, thereby lessening the commute for those traveling to the Project site by providing local housing options. However, the future location of housing demand cannot be predicted with certainty because it is influenced by complex factors, including housing supply, the demographics of new employees, traffic and transit conditions, the salaries of new employees, and the preferences of new employees.

4.2 Significant Irreversible Changes

Section 15126.2(d) of the CEQA Guidelines requires a Draft EIR to evaluate the significant irreversible environmental changes that would be caused by a proposed project should it be implemented. It describes three categories of significant irreversible changes that should be considered. Each is addressed below.

[7] (up to 16 new residents in the city's sphere of influence/10,390 anticipated new residents in the city's sphere of influence between 2020 and 2040) × 100 = 0.15 percent of anticipated population growth in the city's sphere of influence

Changes in Land Use that Commit Future Generations

The Project site is within the Bayfront Area of the city and generally surrounded by commercial and light industrial uses. The approximately 4.12-acre Project site includes four separate legal lots and four single-story light industrial/office buildings. One of the parcels contains a drainage ditch that carries surface runoff northward toward San Francisco Bay.

The Proposed Project involves the construction of a five-story R&D building with associated parking and landscaping. The existing drainage channel would remain as currently configured. Construction of the Proposed Project would occur on land that is designated for, and currently occupied by, urban land uses. The Proposed Project would be consistent with existing zoning for the site; however, in the future, the site could be rezoned, in which case, at the end of the useful life of the Proposed Project, the use could change. Therefore, the Proposed Project would not commit future generations to a significant change in land use.

Irreversible Damage from Environmental Accidents

No significant environmental damage, such as damage from an accidental spill of a hazardous material, is anticipated to occur with development of the Proposed Project. As described in Section IX, *Hazards and Hazardous Materials*, of the Initial Study (Appendix 1-1), Phase I Environmental Site Assessments (ESAs) were prepared for the Project site; significant hazardous materials were not identified at the site. However, an underground storage tank (UST) was removed from the north side of the Building Lot in 1994.[8] In addition, another historical recognized environmental condition, identified as a leaking UST that once contained diesel, existed at the Accessory Parking Lot site.[9] These cases were closed, and no constituents of concern were detected at concentrations that exceeded regulatory levels of concern.

It is anticipated that the Proposed Project would generate hazardous materials as a result of its life science uses. In addition, the Proposed Project would use hazardous materials that are typical in office uses (e.g., cleaning products, building maintenance products, fertilizers and pesticides used in landscaping). It is possible that such materials could be released into the environment. The San Mateo County Environmental Health Department regulates waste generated by biotechnology through its Medical Waste Program and other hazardous materials through its Hazardous Materials Business Plan Program. Both programs regulate the use, storage, and disposal of hazardous materials. Enforcement is overseen by the Menlo Park Fire Protection District (MPFPD). Compliance with federal, state, and local regulations would ensure that all hazardous materials would be used, stored, and disposed of properly, which would minimize potential impacts related to a hazardous materials release during Project operation. 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.

Consumption of Non-Renewable Resources

The Proposed Project would provide approximately 131,825 gsf of space within a five-story building. Project development would require the use of materials such as steel and copper, 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 and natural gas.

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8 Stellar Environmental Solutions, Inc. 2019. *Phase I Environmental Site Assessment, 1105, 1135, and 1165 O'Brien Drive, Menlo Park, California*. Prepared for: O'Brien Drive Portfolio, LLC, Menlo Park, California. October 4.

9 Farallon Consulting. 2020. *Phase I Environmental Site Assessment. 1 Casey Court, Menlo Park, California.* Prepared for: Tarlton Properties, Inc., Menlo Park, California. August 13.

The Proposed Project would consume an estimated 53,896 gallons of diesel fuel and 5,001 gallons of gasoline over the entire construction period. Construction of the Proposed Project would not involve the consumption of natural gas. To the extent that electric-instead of fuel-powered equipment is used during construction, it will reduce use of diesel or gasoline fuel – especially if the electricity is generated from a renewable source.

During operations, the Proposed Project's energy demand is estimated to be as follows:

- **Electricity**: The Proposed Project would consume approximately 4,097,600 kilowatt-hours of electricity per year, which would represent an increase in electricity demand compared with existing conditions at the Project site.
- **Natural Gas**: The Proposed Project would consume approximately 219,000 therms of natural gas per year, which would represent an increase in natural gas demand at the Project site compared to existing conditions.
- **Other Fuel:** The Proposed Project would consume 130,755 gallons of gasoline fuel and 14,979 gallons of diesel fuel annually during normal operations. The fuel would be consumed by vehicles traveling to and from the Proposed Project site, such as employee, delivery, and visitor vehicles.

The Project Sponsor proposes to use 100 percent renewable electricity (e.g., hydropower, sun, wind, geothermal), based on Code requirements. To the extent this occurs the Proposed Project would not represent an irreversible use of resources. To the extent that electricity for the Proposed Project comes from non-renewable sources (e.g., natural gas, coal, nuclear), the Proposed Project would represent an irreversible use of those resources.

4.3 Effects Found Not to Be Significant

Section 15128 of the CEQA Guidelines notes that "an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." Implementation of the Proposed Project would not result in significant environmental impacts related to aesthetics, agricultural and forestry resources, air quality (conflicts with plans and odors), biological resources (riparian habitat or other sensitive natural communities, wetlands, conflicts with local policies, or conflicts with habitat conservation plans and natural community conservation plans), cultural resources (historical resources and human remains), energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise (airport land use plan), population and housing (displacement of people and housing), public services, recreation, and utilities and service systems. Therefore, these issues are not discussed further in this Draft EIR but are briefly summarized below.

As described in Chapter 2, *Project Description,* and in the 1350 Adams Court EIR,[10] in order for new projects in the O'Brien area to be approved, the City will need to upgrade waterlines along both O'Brien Drive and Adams Court. The potential impacts associated with constructing the waterlines were evaluated in the 1350 Adams Court EIR, which is incorporated herein by reference. The waterline analyses are also summarized below.

[10] City of Menlo Park. 2022. *1350 Adams Court EIR*. Section 3.1, Transportation. Available: https://menlopark.gov/Government/Departments/Community-Development/Projects/Under-review/1350-Adams-Court. Accessed: January 2023.

Aesthetics

The Project site is within a portion of the city known as the Bayfront Area.[11] Because of the relatively flat topography of the Project site and vicinity, as well as nearby buildings and vegetation, views from at-grade locations are largely restricted. Although the Proposed Project would result in additional height, bulk, and massing from the new building, because of the flat topography and distance, existing intervening structures, and planned landscaping, the Proposed Project site would be partially screened from view and would not block a scenic vista. As explained in the ConnectMenlo EIR, although a section of Interstate 280 within the ConnectMenlo study area is a designated scenic highway, per the California Scenic Highways Program,[12] the Bayfront Area is not within the viewshed of Interstate 280.

The Proposed Project would have an average height of 60.58 feet (across the entire Project site); the maximum height of the proposed building would be approximately 100.75 feet. Although the maximum average height permitted is 35 feet, bonus-level development within the Life Science, Bonus (LS-B) zoning district would allow a maximum floor area ratio of 125 percent, a maximum height of 110 feet, and a maximum average height of 67.5 feet in exchange for community amenities.

The Proposed Project would be required to comply with the City's architectural control process, in accordance with Section 16.8.020 of the zoning ordinance, ensuring that the Proposed Project would comply with existing design standards, including standards related to light and glare. This process would further ensure that the proposed design, construction materials, and lighting would be consistent with area practices and that the proposed lighting would be directed downward so as not to spill over onto adjacent properties. Therefore, the Proposed Project's impacts related to scenic vistas, scenic resources, and light and glare would be ***less than significant***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. The waterline construction analysis in the 1350 Adams Court EIR concluded that the roadways where the waterlines would be constructed are not considered visually sensitive because of the urbanized surroundings that include commercial, industrial, educational, office, and warehouse buildings. Incorporation of the additional waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would require demolition, excavation, and construction activities along the waterline routes, similar to the activities that would occur on the 1350 Adams Court project site. The 1350 Adams Court EIR found that visual degradation associated with waterline construction would be short term and temporary. In addition, the EIR found that identified City General Plan goals and policies would serve to minimize potential adverse impacts on aesthetic resources, including impacts during construction activities. Therefore, the 1350 Adams Court EIR found that the impact of the proposed waterline upgrades on aesthetics would be ***less than significant***.

[11] According to the ConnectMenlo EIR, which can be found online at https://menlopark.gov/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo.

[12] California Department of Transportation. 2021. *California Scenic Highway Mapping System, San Mateo County.* Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed: February 4, 2021.

Agricultural and Forestry Resources

The Project site and vicinity are within an urban area of the city characterized by light industrial and office uses. The Project site is not on or adjacent to farmland. The site is considered "Urban and Built-Up Land"[13] by the California Department of Conservation. It is not used for agricultural production, nor does it support forestry resources. Therefore, implementation of the Proposed Project would have ***no impact*** on agricultural and forestry resources. The 1350 Adams Court EIR made the same conclusion regarding waterline construction.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. The waterline construction analysis in the 1350 Adams Court EIR concluded that the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the characteristics of the roadways where the waterlines would be constructed or the immediate vicinity because construction related to installation of the waterlines would occur within an urbanized area of the city. The 1350 Adams Court EIR found that the roadways are not on or adjacent to farmland, nor used for agricultural production or forestry resources. Therefore, construction of the proposed waterline upgrades, would have ***no impact*** on agricultural and forestry resources.

Air Quality

Impacts related to conflicts with applicable air quality plans and odors were scoped out from further review in the Initial Study. These impacts are summarized in Section 3.2, *Air Quality*. Consideration of the waterline construction effects in the 1350 Adams Court EIR also are summarized in Section 3.2.

Biological Resources

Impacts related to riparian habitat or other sensitive natural communities, federally protected wetlands, conflicts with local policies or ordinances protecting biological resources, and conflicts with adopted habitat conservation plans or natural community conservation plans were scoped out from further review in the Initial Study. These impacts are summarized in Section 3.7, *Biological Resources.*

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of upgraded waterline construction impacts. Biological resources and impacts related to the scoped-out impacts are addressed in the Initial Study and in Chapter 5 of the 1350 Adams Court project EIR and summarized in Section 3.7, Biological Resources, of this EIR.

Cultural and Tribal Cultural Resources

Impacts related to historical resources and human remains were scoped out from further review in the Initial Study. These impacts are summarized in Section 3.6, *Cultural and Tribal Cultural Resources.*

[13] California Department of Conservation. 2018. *2018 Farmland Mapping and Monitoring Program*. Available: https://www.conservation.ca.gov/dlrp/fmmp/Pages/SanMateo.aspx. Accessed: February 4, 2021.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline impacts. Cultural and tribal cultural resources and impacts related to the scoped-out impacts are addressed in the Initial Study and Section 3.6 and Chapter 5 of the 1350 Adams Court project EIR and summarized in Section 3.6, Cultural and Tribal Resources, of this EIR.

Energy

Consistent with ConnectMenlo requirements, the Proposed Project would comply with specific green building requirements for Leadership in Energy and Environmental Design (LEED) certification, comply with City Zoning Ordinance requirements regarding renewable energy generation/purchases and credits/offsets for exceptions granted by the City for the use of natural gas, provide outlets for electric-vehicle charging, use modern appliances and equipment, and comply with current California Green Building Standards Code (CALGreen) standards, which would help to reduce energy consumption. The Proposed Project would also comply with the City's local amendments to the California Energy Code (reach codes), which would further reduce energy consumption beyond CALGreen requirements. Furthermore, the Proposed Project would be consistent with ConnectMenlo energy conservation policies and City Zoning Ordinance requirements, as noted above, and would help further the goals of the City's Climate Action Plan.[14] The Proposed Project would also implement transportation demand management (TDM) measures, which would help reduce transportation energy usage, consistent with ConnectMenlo and City Zoning Ordinance requirements. Therefore, potential impacts related to energy use would be ***less than significant.***

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. With the addition of the waterline construction along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property, the 1350 Adams Court EIR found that the energy impacts would be similar to those analyzed in the Initial Study regarding the installation of new or expanded gas lines on the Project site. The waterline construction would similarly require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. These construction impacts are also discussed in detail in the appropriate topical sections of the 1350 Adams Court EIR (Section 3.3, Greenhouse Gas; Section 3.6, Utilities, including energy) as part of the assessment of that project's overall impacts. Although construction related to new or relocated waterlines could result in short-term environmental effects (e.g., noise, dust, traffic, temporary service interruptions), the work would comply with City and PG&E regulations as well as standard conditions for new construction related to infrastructure improvements. Any such work would be subject to compliance with applicable regulations and standard conditions of approval, including City permits/review (e.g., grading permits, private development review, encroachment permits). Therefore, the 1350 Adams Court EIR found that construction activities are not anticipated to result in an inefficient use of

[14] On April 20, 2021, the Menlo Park City Council adopted an amended 2030 Climate Action Plan, which included an updated zero-carbon goal, to be achieved as a community by 2030. To the extent that the City Council enacts ordinances, programs, or requirements that are applicable to private development, the Proposed Project would comply with the requirements, as applicable. Compliance with the requirements would be ensured through conditions of approval. The amended 2030 Climate Action Plan is available at https://menlopark.gov/Government/Departments/City-Managers-Office/Sustainability/Climate-Action-Plan.

energy. Gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs. The waterline is currently operational but would be replaced. The same amount of energy would be expended during operation to move water through the pipe, and no new operational impacts would occur. The 1350 Adams Court EIR found that the impacts related to energy consumption during construction and operation, including impacts associated with waterline construction, would be ***less than significant***.

Geology and Soils

No known fault crosses the Project site. Furthermore, the Project site is not within an Alquist-Priolo Earthquake Fault Zone. Similar to the ConnectMenlo EIR, the Initial Study determined that compliance with existing regulations, including Menlo Park General Plan policies, such as S-1.13, and the California Building Standards Code, would ensure that potential impacts related to strong seismic ground shaking and seismically related ground failure, including liquefaction or landslides, would be less than significant. In addition, per Menlo Park General Plan Programs S-1D and S-1H, the Proposed Project would be required to incorporate recommendations made in the site-specific geotechnical investigation, which would ensure that potential impacts related to soil erosion and unstable soils would be less than significant. A Stormwater Pollution Prevention Plan (SWPPP) and best management practices (BMPs) would also be implemented during construction and operation of the Proposed Project to minimize erosion. Furthermore, if paleontological resources are found on site during ground disturbing activities, these impacts would be significant. However, implementation of ConnectMenlo Mitigation Measure CULT-3 would ensure that potential impacts of the Proposed Project related to paleontological resources would be less than significant. Therefore, Project impacts related to geology and soils would be ***less than significant with mitigation***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the physical characteristics of the roadways where the waterlines would be constructed. Soils in the surrounding area are designated as Urban Land, meaning that they are not native topsoil. The additional soil removal required for installation of the waterlines would not result in a loss of topsoil. Soils at the Project site and surrounding area are not rated for erosion. Construction of the upgraded waterlines would include demolition, excavation, and grading and could result in accelerated erosion. Excavation activities associated specifically with the waterlines would generate an additional 1,561 cy of excavated material. The removal of concrete and asphalt would temporarily expose previously sheltered soils to the elements as well as construction activities on the site, which could accelerate erosion rates. However, all construction activities, including those related to the waterlines, would comply with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which contains standards to ensure that water quality would not be degraded. As part of this permit, standard erosion control measures and BMPs would be identified in a SWPPP and implemented during construction to reduce sedimentation in waterways and any loss of topsoil. The SWPPP and BMPs would minimize erosion and runoff during construction. The BMPs could include, but would not be limited to, using drainage swales or lined ditches to control stormwater flows and protecting storm drain inlets (e.g., with gravel bags or catch basin inserts). Therefore, the 1350 Adams Court EIR found that through compliance with existing regulations, the impacts on geology and soils, including impacts related to the additional waterlines, would be ***less than significant***.

Hazards and Hazardous Materials

The Proposed Project would demolish the buildings located at 1105, 1135, and 1165 O'Brien Drive as well as 1 Casey Court and construct a new five-story building that would include R&D uses, office uses associated with the primary R&D uses, a 500-square-foot (sf) chemical storage area, and ground-floor commercial space. A review of regulatory databases did not reveal a history of hazardous waste releases or documented environmental contamination at the Project site, nor was the Project site on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Phase I ESAs were prepared for the Project site; significant hazardous materials were not identified at the site. However, as discussed above, a UST was removed from the north side of the Building Lot in 1994.[15] In addition, another historical recognized environmental condition, identified as a leaking UST that once contained diesel, existed at the Accessory Parking Lot site.[16] Both cases were closed, and no constituents of concern were detected at concentrations that exceeded regulatory levels of concern.

Although no vapor encroachment condition exists at the Project site, the potential remains for excavation to encounter contaminated soil. Consistent with standard health requirements**,** soil from future excavation in the immediate vicinity of the former leaking UST would be sampled and analyzed for petroleum hydrocarbons and UST-related metals. If detected at levels that could affect human health or the environment, the impact would be significant.

To reduce significant impacts associated with soil contamination in the area of the former leaking UST site, the Project would incorporate Mitigation Measures HAZ-4a from the ConnectMenlo EIR.

It is anticipated that the Proposed Project would use, store, generate, and dispose of hazardous materials during construction and operation; however, none of these products would be expected to be generated or stored in large quantities, and any transport of these materials would be subject to California Department of Transportation regulations. In addition, the Proposed Project would be required to adhere to the San Mateo County Environmental Health Department's Certified Unified Program Agency regulations and related Unified Program as well as the Project-specific SWPPP.

The Wund3rSCHOOL/Open Mind School, Cesar Chavez Elementary School, and Mid-Peninsula High School are all within 0.25 mile of the Project site. However, as explained above, the Proposed Project would be required to comply with federal, state, and local regulations, as well as the Project-specific SWPPP, which would ensure that all hazardous materials would be used, stored, and disposed of properly and minimize potential impacts related to a hazardous materials release.

The Project site is within 1.8 miles of Palo Alto Airport, the closest airport to the Project site. However, the Project site lies outside aircraft noise contours and airport safety zones.[17] Accordingly, the Proposed Project would not be subject to restrictions related to airport safety hazards, as outlined in the Comprehensive Land Use Plan (CLUP) for Palo Alto Airport. Furthermore**,** the height of the proposed building (100.75 feet) would be less than the height (500 feet) that would necessitate a special review

[15] Stellar Environmental Solutions, Inc. 2019. *Phase I Environmental Site Assessment, 1105, 1135, and 1165 O'Brien Drive, Menlo Park, California*. Prepared for: O'Brien Drive Portfolio, LLC, Menlo Park, California. October 4.

[16] Farallon Consulting. 2020. *Phase I Environmental Site Assessment. 1 Casey Court, Menlo Park, California.* Prepared for: Tarlton Properties, Inc., Menlo Park, California. August 13.

[17] Windus, W.B. 2008. *Comprehensive Land Use Plan, Santa Clara County: Palo Alto Airport*. Amended: November 16, 2016. Available: https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_PAO_CLUP.pdf. Accessed: December 5, 2019.

under the CLUP. Similar to the conclusions in the ConnectMenlo EIR, compliance with existing regulations, including the California Building Standards Code, California Fire Code, and MPFPD Fire Code, would ensure that the Proposed Project would not impair nearby evacuation routes, nor would it expose people to loss, injury, or death involving wildland fires. Therefore, impacts related to hazards and hazardous materials would be ***less than significant with mitigation***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the physical characteristics of the roadways where the waterlines would be constructed or the locations where the waterlines would be installed. Furthermore, no known hazardous materials are present on the site where waterlines would be installed; therefore, the transport of spoils is not expected to result in the transport of hazardous materials. However, in case hazardous contamination that was previously undocumented is discovered during installation of the waterlines, Project construction would be required to adhere to San Mateo County Certified Unified Program Agency regulations, the related Unified Program, and the Project-specific SWPPP. BMPs would be implemented and maintained to avoid adverse construction-related effects, including releases of hazardous materials, on the surrounding environment. Furthermore, the 1350 Adams Court EIR found that any hazardous materials discovered during installation of the waterlines would be required to be transported under Caltrans regulations. Because the projects would be required to comply with federal, state, and local regulations, as well as the Project-specific SWPPP, ensuring that all hazardous materials would be used, stored, and disposed of properly and minimizing potential impacts related to a hazardous materials release, the Project would not be expected to create a significant hazard for the public or the environment through the routine transport, use, or disposal of hazardous materials. Therefore, the 1350 Adams Court EIR found that with incorporation of the proposed waterline upgrades, impacts related to hazards and hazardous materials would be ***less than significant***.

Hydrology/Water Quality

The Proposed Project would be required to comply with the City's Stormwater Management Program. On behalf of the Project Sponsor, BKF prepared the *1125 O'Brien Drive Hydrology Report* and the *1 Casey Court Preliminary Hydrology Report*, in compliance with City requirements. Under the Proposed Project, existing pipes and area drains would be replaced with a new system throughout the Project site that would convey runoff from paved areas and structures to a bioretention area. After passing through a basin, stormwater would exit the site through a 15-inch storm drain to offsite improvements, consisting of a new gutter-type catch basin near the northeast corner of the Project site and a 15-inch pipe that would drain northward and connect to an existing catch basin and system just north of Kavanaugh Drive. As a result, the proposed improvements would not alter offsite drainage patterns.

Construction activities could result in short-term impacts on the quality of surface water and groundwater. If proper minimization measures are not implemented, such impacts could include sediment loads that exceed water quality objectives or chemical spills that flow into storm drains or groundwater aquifers. However, a SWPPP would be developed for the Project and implemented in compliance with the Construction General Permit, local stormwater ordinances, and related requirements. During operation, the Proposed Project would implement BMPs and incorporate site design measures to reduce stormwater runoff. These would include a bioretention area and flow-through planters to treat runoff from the roof

and impervious areas, along with a landscape planter and five self-treating pervious areas. In addition, the Project Sponsor would develop and implement a final Stormwater Management Plan, with the goal of reducing the discharge of pollutants to the maximum extent practicable.

The Proposed Project would add approximately 14,207 sf of net new pervious surfaces on the Project site, resulting in pervious surfaces totaling approximately 15.2 percent of the site; 152,089 sf, or 84.8 percent, of the Project site would be impervious surfaces. This represents a decrease in the amount of impervious surface area and an increase in the amount of pervious area compared with current conditions. The increase in pervious area would result in a net decrease in the volume of runoff and floodwater leaving the Project site.

The Proposed Project would be regulated by Provision C.3 of the Municipal Regional Permit and required to treat runoff from all impervious areas. As stated above, the Proposed Project would implement combined treatment facilities onsite, including flow-through planters, bioretention areas, landscaped areas, and self-treating areas, to capture and treat runoff from newly created or replaced impervious areas. These landscape features and combined treatment facilities would collect stormwater and slowly release it at a controlled rate, thereby allowing groundwater infiltration.

The Proposed Project would maintain pre-Project drainage conditions through compliance with existing National Pollutant Discharge Elimination System permits, the Menlo Park Municipal Code provisions for stormwater management, and City drainage guidelines. Implementation of a Stormwater Management Plan would ensure that the existing drainage pattern of the site and surrounding area would not be substantially altered and that substantial erosion or flooding would not occur. In addition, as listed in Chapter 2, *Project Description*, the Proposed Project would require review and approval from the San Francisco Public Utilities Commission (SFPUC) for any work within or adjacent to the Hetch Hetchy right-of-way, and related easements, to ensure compliance with all applicable SFPUC regulations or requirements and that construction and operation of the Proposed Project would not impede operation of a water transmission pipeline right-of-way.

The Project site is within a flood zone. Therefore, the ground level would be raised to meet Federal Emergency Management Agency requirements. The lowest finished floor would be at an elevation of 14.8 feet, 24 inches above the 100-year Federal Emergency Management Agency base flood elevation. Therefore, impacts related to hydrology and water quality would be ***less than significant***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the physical characteristics of the roadways where the waterlines would be constructed. Construction activities, including installation of the waterlines, would temporarily alter existing drainage patterns and could result in temporary onsite erosion and siltation. However, the project would implement a SWPPP to minimize the potential for sedimentation in nearby storm drains. Furthermore, preparation and implementation of the SWPPP would reduce the potential for substantial erosion or siltation onsite or offsite or a substantial increase in the rate or amount of runoff. The waterline upgrades would be in compliance with NPDES permits and the Menlo Park Municipal Code regarding construction and stormwater management (Chapter 7.42). In addition, construction activities, specifically those related to dewatering for excavation and trenching, could result in short-term impacts on the quality of surface water and groundwater. Such impacts could be related to sediment loads that exceed water quality objectives or chemical spills that flow into storm drains or

aquifers. However, as stated above, a Project SWPPP would be developed and implemented in compliance with the Construction General Permit, local stormwater ordinances, and other related requirements. Incorporation of the additional waterlines would be required to implement 1350 Adams Court Project-Mitigation Measure WQ-1, Implement Construction Dewatering Treatment (if necessary), to ensure that potential impacts on hydrology and water quality would be less than significant. Furthermore, the addition of the waterlines would not change the commitment to landscape open space areas with ground cover, including trees, shrubs, and other surficial vegetation. Therefore, the 1350 Adams Court EIR found that with incorporation of the proposed waterlines the impacts on hydrology and water quality would be ***less than significant with mitigation***.

Land Use and Planning

The ConnectMenlo EIR concluded that implementation of ConnectMenlo would not include any new major roadways or other physical features through existing residential neighborhoods or other communities that would create new barriers in the city. Therefore, the Proposed Project would not physically divide an established community.

The Project site is within the LS-B zoning district, which allows for life science and R&D uses. The Proposed Project would be consistent with the mix and intensity of development contemplated by ConnectMenlo, which includes bonus-level life sciences development with community amenities. As noted throughout the Initial Study and this Draft EIR, in general, the Proposed Project would not conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, impacts related to land use and planning for CEQA purposes would be ***less than significant***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the Project's consistency with the applicable general plan designation, applicable general plan policies, as well as applicable zoning designations and regulations. The 1350 Adams Court EIR found that the proposed waterline construction would not conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Furthermore, the upgrading of the existing waterlines would not physically divide an established community because installation work would occur within existing roadways. The waterlines would serve development that was previously studied in the ConnectMenlo EIR. Therefore, the 1350 Adams Court EIR found that with installation of the proposed waterline upgrades, the impact of the Proposed Project on land use and planning would be ***less than significant***.

Mineral Resources

The Surface Mining and Reclamation Act of 1975 is the state legislation that protects Mineral Resource Zones (MRZs). Part of the purpose of the act is to classify mineral resources in the state and transmit the information to local governments that regulate land uses in each region of the state. Local governments are responsible for designating lands that contain regionally significant mineral resources in local general plans to ensure resource conservation in areas with intensive competing land uses. The law has resulted in the preparation of mineral land classification maps, which delineate MRZs 1 through 4 for aggregate resources (i.e., sand, gravel, stone). The Project site 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 Menlo Park land use plan. The CGS Mineral Resource Zones and Resource Sectors map classifies the Project site as MRZ-1,[18] an area "where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence."[19] Therefore, construction and operations associated with the Proposed Project would have ***no impact*** on mineral resources.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of a waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the characteristics of the roadways where the waterlines would be constructed or immediate vicinity because construction work related to installation of the waterlines would occur within an urbanized or previously disturbed area of the city. The Project site and surrounding vicinity are designated MRZ-1, an area where "adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence."[20] Therefore, the 1350 Adams Court EIR found that the incorporation of the additional waterlines would have ***no impact*** on mineral resources.

Noise

Impacts related to excessive noise levels in the vicinity of private or public airports were scoped out from further review in the Initial Study. These impacts are summarized in Section 3.4, *Noise*.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. The 1350 Adams Court EIR found that the implementation of the waterlines would not expose people residing or working in the Project area to excessive noise levels related to private or public airports. Therefore the 1350 Adams Court EIR found that there would be ***no impact***.

Population and Housing

All impacts related to the displacement of existing people or housing were scoped out from further review in the Initial Study. These impacts are summarized in Section 3.5, *Population and Housing*.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the

[18] California Geological Survey. 1987. *Special Report 146 – Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Part II: Classification of Aggregate Resource Areas, South San Francisco Bay Production-Consumption Region.* Palo Alto quadrangle, Plate 2.40. Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_146-2/SR-146_Plate_2.40.pdf. Accessed: November 7, 2019.

[19] Ibid.

[20] California Geological Survey. 1987. *Special Report 146 – Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Part II: Classification of Aggregate Resource Areas South San Francisco Bay Production-Consumption Region.* Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_146-2/SR_146-2_Text.pdf. Accessed: June 18, 2018.

waterline construction analysis in the 1350 Adams Court EIR, the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not displace existing people or housing as no housing exists with the roadways. The waterline modifications would occur within an existing industrial/commercial area and construction would temporarily affect the existing roadways and businesses within the commercial buildings. Therefore, the 1350 Adams Court EIR found that no displacement of existing people or housing would occur and that there would be ***no impact.***

Public Services

The ConnectMenlo EIR determined that adherence to state and City requirements, as well as the MPFPD permitting process, would ensure that the Proposed Project would not result in the need for remodeled or expanded MPFPD facilities. The Menlo Park Police Department (MPPD) also indicated that direct and indirect growth under ConnectMenlo would not require the expansion or addition of facilities. Similarly, the ConnectMenlo EIR concluded that indirect and direct growth associated with buildout of ConnectMenlo would not result in the need for additional or expanded library facilities. The Proposed Project would be served by existing libraries in the city.

Residential and non-residential development subject to Senate Bill (SB) 50, including the Proposed Project, would be required to pay school impact fees, as established by the Leroy F. Greene School Facilities Act of 1998. Section 65996 of the Government Code states that the payment of the school impact fees established by SB 50, which may be required from a developer by any state or local agency, 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. Furthermore, the Proposed Project would include private and public open space and contribute development impact fees to address infrastructure and service needs. It would not result in substantial deterioration at parks or other public facilities. Therefore, the Proposed Project's impacts on public services would be ***less than significant***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not cause changes or impacts to public services because construction work related to installation of the waterlines would occur within an urbanized area of the city and would not result in indirect or direct growth in the form of new employees or residents. In addition, the proposed waterlines would be installed to improve fire flow for existing development within the Project area. The upgraded waterlines would also support development that was previously analyzed in the ConnectMenlo EIR. The Project site is adequately served by existing public service providers (i.e., MPPD, MPFPD, schools, and libraries) and would not require the addition or expansion of facilities. Therefore, the 1350 Adams Court EIR found that with incorporation of the proposed waterlines, the impact of the Proposed Project on public services would be ***less than significant***.

Recreation

The ConnectMenlo EIR determined that full buildout under ConnectMenlo would result in a parkland ratio of 5.2 acres per 1,000 residents, which would exceed the City-adopted general plan policy that calls for maintaining a ratio of 5 acres of developed parkland per 1,000 residents (Policy OSC-2.4). In addition to the existing parkland in the city, which is provided at a ratio of 6.47 acres of parkland per

1,000 residents, the Proposed Project would include a total of 19,399 sf of public open space and 6,600 sf of private open space. Private open space would be provided primarily in the form of a rooftop deck; public open space would be provided in the form of benches and landscaped areas along the street frontages and in the perimeter pathway. The City Zoning Ordinance requires a minimum of 10 percent, or 17,954 sf, of the site to be publicly accessible open space. Approximately 11 percent, or 19,399 sf, of the Project site would consist of publicly accessible open space. In addition, the Proposed Project would not require the construction or expansion of existing public recreational facilities. Therefore, the Proposed Project's impacts on recreational facilities would be ***less than significant***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, the addition of the waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property would not change the characteristics of the project vicinity because construction work related to installation of the waterlines would occur within an urbanized area of the city and would not result in impacts on recreational facilities, such as impacts related to increased use from additional employees or residents. The 1350 Adams Court EIR found that the area is adequately served by existing recreational facilities and would not require the addition or expansion of recreational facilities to serve the Proposed Project. Therefore, the 1350 Adams Court EIR found that with incorporation of the proposed waterlines, the impacts of the Proposed Project on recreation would be ***less than significant***.

Utilities and Service Systems

Water. The Proposed Project would adhere to the zoning update and City requirements related to water use and conservation. The Proposed Project, which would result in a net increase in the number of employees on the site (i.e., 185), would be consistent with the type and intensity of development as well as the population projections assumed for the Project site in ConnectMenlo. As described above, although there would be an increase in the total amount of landscaped area, water use would not increase substantially because the Proposed Project would include water-conserving plant material and irrigation systems, in compliance with the Water-Efficient Landscape Ordinance. In addition, piping for recycled water would be provided in the proposed building for urinals and toilets and in the landscaped area. The piping would connect to the future Bayfront Recycled Water Treatment Facility when recycled water becomes available. Therefore, there would be adequate water supplies available to serve the Proposed Project and reasonably foreseeable future development during normal, single, and multiple dry years. The Proposed Project's impact would be ***less than significant.***

Wastewater. A proposed 6-inch sanitary sewer line on the north side of the proposed building would connect to an 18-inch sanitary sewer line that runs under O'Brien Drive. In addition, a typical West Bay Sanitary District control maintenance hole with a flow meter in it for recording flows would also be installed, providing an access point for sampling wastewater just before the connection point. Wastewater from the Project site would ultimately be discharged to the Silicon Valley Clean Water pump station in Redwood City. After an increase in size, the pipelines would have the capacity needed to support the Proposed Project's wastewater flows. The Project Sponsor would be required to coordinate with the City and the West Bay Sanitary District to assess wastewater flow requirements and ensure that the existing wastewater infrastructure would be adequate for the Proposed Project. Furthermore, as discussed under Impact C in Section XIX, *Utilities and Service Systems*, of the Initial Study (see Appendix 1-1), the Proposed Project would be consistent with the type and intensity of development as well as the population

projections assumed for the Project site in the ConnectMenlo EIR, which determined that full buildout of the Bayfront area and the City as allowed by Connect Menlo, would result in a net increase in wastewater generation totaling 309 million gallons per year, or 0.85 million gallons per day, which would not be significant relative to the currently available 13 million gallons per day in excess dry-weather flow capacity. Therefore, there would be adequate wastewater treatment capacity available to serve the Proposed Project's projected demand and demands by other development under Connect Menlo, in addition to the provider's existing commitments. The Proposed Project's impact would be ***less than significant***.

Stormwater. The ConnectMenlo EIR determined that all future development would result in less-than-significant impacts through required compliance with existing regulations, including general plan policies and zoning regulations, thereby minimizing impacts related to stormwater drainage facilities. In addition, all future projects would be reviewed by the City to ensure that onsite drainage infrastructure, low-impact development (LID) features, and retention basins would be adequate and able to prevent onsite and offsite flooding. The Proposed Project would implement a Stormwater Management Program, incorporate LID treatment measures, and comply with all existing local and state stormwater requirements. The Proposed Project would not require or result in the construction of new stormwater drainage facilities or the expansion of existing facilities. Therefore, the Proposed Project's impacts related to stormwater would be ***less than significant***.

Energy and Communication Lines. Natural gas, electricity, and telecommunication lines may need to be extended or relocated as a result of the Proposed Project. The installation of new or expanded infrastructure on the Project site would require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. In addition, although construction related to the new or relocated gas and electric lines could result in short-term environmental effects (e.g., noise, dust, traffic, temporary service interruptions), the work would comply with City regulations and Pacific Gas and Electric Company standard conditions for new construction related to infrastructure improvements. Furthermore, any such work would be subject to compliance with applicable regulations and standard conditions of approval for the Proposed Project, including City permits/reviews for construction. However, no offsite natural gas, electricity, and telecommunications facilities would need to be constructed or expanded as a result of the Proposed Project. Therefore, the Proposed Project's impacts related to natural gas, electricity, and telecommunications would be ***less than significant***.

Solid Waste. 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 Proposed Project would be required to develop and implement a Zero-Waste Management Plan in accordance with City standards, which would further reduce waste generated from operations at the site. In addition, per Assembly Bill 34 and Assembly Bill 939, the Proposed Project would recycle and divert 65 percent[21] of the solid waste from landfills. Therefore, impacts related to solid waste would be ***less than significant***.

Waterline Construction: The following discussion summarizes the analysis and conclusions in the City's previously certified 1350 Adams Court EIR, which is incorporated by reference, and does not constitute new or additional CEQA analysis of waterline construction impacts. As discussed in the waterline construction analysis in the 1350 Adams Court EIR, new development in the area requires upgrading

[21] CalRecycle. 2023. *CALGreen Construction Waste Management Requirements*. CALGreen Construction Waste Management Requirements - CalRecycle home page. Accessed: January 2023.

existing waterlines along O'Brien Drive, Adams Court, and the perimeter of the 1350 Adams property. The new lines would be placed next to the existing lines, which would be disconnected rather than removed. The 1350 Adams Court EIR determined that no significant impacts would occur to utilities or service systems and no mitigation measures would be necessary. Therefore, the 1350 Adams Court EIR found that impacts related to Utilities and Service Systems would be ***less than significant***.

4.4 Significant and Unavoidable Environmental Impacts

Section 21100(b)(2)(A) of CEQA and Section 15126.2(c) of the CEQA Guidelines require a Draft EIR to identify any significant environmental effects that cannot be avoided. Many impacts identified for the Proposed Project would either be less than significant or mitigated to a less-than-significant level with implementation of the identified mitigation measures, as discussed throughout Chapter 3 of this EIR and the Initial Study (Appendix 1-1). However, the Proposed Project would result in the following significant and unavoidable environmental impacts:

- **Impact GHG-2: Generation of GHG Emissions during Operation and Conflicts with Applicable Plans and Policies.** The level of GHG emissions associated with operation of the Proposed Project would have a significant impact on the environment and would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs that specifically relate to the use of natural gas.
- **Impact C-GHG-1: Cumulative GHG Impacts.** The Project would generate GHG emissions that would have a significant cumulative impact on the environment.
- **Impact NOI-1a: Construction Noise**. Construction of the Proposed Project would expose persons to and/or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- **Impact NOI-2: Vibration Effects during Construction.** The Proposed Project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels.

Chapter 5
Alternatives

5.1 Introduction

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.) require that an environmental impact report (EIR) "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic project 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" (State CEQA Guidelines Section 15126.6 [a]). An EIR does not need to consider every conceivable alternative to the project, rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

As an EIR identifies ways to mitigate or avoid significant effects that a project may have on the environment, the discussion of alternatives should focus on alternatives to the project or its location that are capable of avoiding or substantially lessening significant effects of the project.

The EIR needs to include adequate information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. If an alternative would cause one or more significant effects, in addition to those that would be caused by the project, the significant effects of the alternative should be discussed, but in less detail than the significant effects of the project. If mitigation measures or a feasible project alternative that would meet most of the basic project objectives would substantially lessen the significant environmental effects of a project, then the lead agency should not approve the project unless it determines that specific technological, economic, social, or other considerations make the mitigation measures and the project alternative infeasible (PRC Section 21002, State CEQA Guidelines Section 15091[a][3]).

The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives "whose effect cannot be ascertained and whose implementation is remote and speculative." The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (State CEQA Guidelines 15126.6[c]).

One of the alternatives that must be analyzed is the "No Project" Alternative. The No Project analysis must discuss the existing conditions at the time the Notice of Preparation (NOP) is published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved and development continued to occur in accordance with existing plans and consistent with available infrastructure and community services (State CEQA Guidelines Section 15126.6[e][2]). Therefore, pursuant to the State CEQA Guidelines, this section discusses and analyzes a No Project Alternative.

In addition to the No Project Alternative, this section provides additional alternatives (Base Level Alternative and Reduced Base Level Alternative) to the Project and analyzes the impacts of each. This section later provides a description of the alternatives and compares the significant impacts of the alternatives to the significant environmental impacts of the Project as proposed.

5.2 Description of Alternatives Considered

As discussed in Chapter 2, Project Description, the Project Sponsor has identified the following Project objectives that are relevant to the physical impacts considered in this document.

- Build a new cutting-edge life science building that will cater to the Bay Area and Stanford entrepreneurial community, as well as life sciences companies both regionally and nationally.
- Develop an environmentally sustainable, high-quality aesthetic facility with the flexibility to accommodate a single life science tenant or meet the needs of multiple tenants.
- Create a project that grows a broad socioeconomic base of jobs as well as business-to-business tax base for the City of Menlo Park.
- Develop space that will accommodate life science employees and jobs in the new Life Sciences district.
- Provide community amenities for surrounding neighborhoods consistent with ConnectMenlo goals and policies.
- Enhance public accessibility from O'Brien Drive to potential future public open spaces along the Hetch Hetchy right-of-way, while providing private (non-public) open space opportunities onsite.
- Achieve Leadership in Energy and Environmental Design (LEED) Gold certification or equivalent for building design and construction.

The potential environmental effects of implementing the Proposed Project are analyzed in Chapter 3, *Environmental Impact Analysis*. The Proposed Project has been described and analyzed in previous chapters and in the Initial Study (Appendix 1-1), with an emphasis on evaluating significant impacts resulting from the Proposed Project and identifying mitigation measures to avoid or reduce the impacts to a less-than-significant level. The following impacts have been identified to be significant and unavoidable in this Draft EIR:

- **Impact NOI-1a: Construction Noise.** Construction of the Proposed Project would expose persons to, and/or generate noise levels in excess of, standards established in a local general plan or noise ordinance or applicable standards of other agencies. Specifically, construction noise during daytime hours would result in a significant noise impact at the Wund3rSCHOOL/Open Mind School, and construction noise between 7:00 a.m. and 8:00 a.m. would result in significant noise impacts at the school and at nearby residential uses.
- **Impact NOI-2: Vibration Effects During Construction.** The Proposed Project would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels. Specifically, the construction-related vibration levels from Parcel 1 may exceed the applicable annoyance threshold at the nearest commercial building.
- **Impact GHG-2: Generation of Greenhouse Gas (GHG) Emissions during Operation and Conflicts with Applicable Plans and Policies.** The level of GHG emissions associated with operation of the Proposed Project would have a significant impact on the environment and would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. This is due to the proposed installation of natural gas infrastructure, which is inconsistent with BAAQMD's GHG thresholds.
- **Impact C-GHG-1: Cumulative GHG Impacts.** The Proposed Project would generate GHG emissions that would have a significant cumulative impact on the environment.

The remaining impacts are either less than significant or are reduced to a less-than-significant level with the appropriate mitigation.

As stated above, the alternatives to a Proposed Project are meant to feasibly attain most of the basic Project objectives while avoiding or substantially lessening its significant impacts. Based on the goal of reducing these impacts while meeting the basic Project objectives, three Project alternatives have been developed for evaluation in this Draft EIR: the No Project Alternative, Base Level Alternative, and Reduced Base Level Alternative. These are described below.

- **No Project Alternative:** The existing uses and site conditions will not change. Evaluation of this alternative is required by CEQA.
- **Base Level Alternative**: This alternative involves new development consistent with the base level of development allowed by the City's zoning on the Project site (both Parcels 1 and 2) and was selected based on its potential to reduce transportation and GHG emission impacts.
- **Reduced Base Level Alternative:** This alternative involves new development consistent with the base level of development allowed by the City's zoning but only on Parcel 1. It was selected based on its potential to reduce or avoid the construction noise and vibration impacts of the Proposed Project and would involve less overall construction and less overall GHG impacts based on its potential to reduce transportation impacts.

Though these alternatives reduce the construction-related noise, vibration, and cumulative construction noise impacts of the Proposed Project, no feasible alternatives were identified that would avoid the Proposed Project's significant and unavoidable GHG impact. See Section 5.4, *No Natural Gas Alternative* discussion below.

Table 5-1 provides a summary of key features of the Proposed Project and each alternative. Further details regarding potential impacts resulting from each alternative are provided below.

Table 5-1. Comparative Description of the Project Alternatives

	Existing	Proposed Project	No Project Alternative	Base Level Alternative	Reduced Base Level Alternative
Site Area (acres)	4.12	4.12	4.12	4.12	2.44[a]
Total Building (GSF)	59,866	131,825	59,866	98,746[b]	58,458[b]
Number of Buildings Onsite	4	1	4	1	1
Total Open Space Onsite (sf)	13,077	39,666	13,077	35,908[c]	21,271[c]
Total Employees	143	328	143	246	146

a. For the Reduced Base Level Alternative, the acreage decreases because Parcel 2 is not included in the Project site.

b. Because of the reduced size of the buildings and the associated reduction in the number of estimated employees, no onsite commercial uses are included.

c. Open space area is for the Project Alternatives is calculated as 20 percent of total site area in conformance with Municipal Code Section 16.44.050.

The No Project Alternative, Base Level Alternative, and Reduced Base Level Alternative represent a reasonable range of potential alternatives to the Proposed Project that may avoid or reduce the significant as well as the significant unavoidable impacts identified in this EIR. Several other potential alternatives were also considered, as discussed in Section 5.4, *Alternatives Considered but Rejected*.

However, these alternatives would not fulfill most of the basic objectives of the Project, would not avoid or substantially lessen significant environmental impacts, or would be infeasible. Therefore, they were not selected for further analysis.

The purpose of the alternatives to the Proposed Project is to enable decision makers to evaluate the project by considering how alternatives to the project as proposed might reduce or avoid the project's impacts on the physical environment. The analysis in this chapter provides an evaluation of the environmental impacts that could be associated with each alternative and compares those potential impacts to those identified for the Proposed Project as described in Chapter 3 of this EIR. Table 5-4, located at the end of this chapter, summarizes the impacts of the Proposed Project and compares those impacts to those that would be associated with each alternative. Unless otherwise indicated, this analysis assumes that the alternatives would implement the same mitigation measures as the Proposed Project.

The upgraded waterline in O'Brien Drive, Adams Drive, and Adams Court will be required for both the Base Level and Reduced Based Level Alternatives, though other future projects in this area may also trigger the requirement to upgrade the abovementioned waterline if they build before development of the Project site. The environmental effects of the required waterline upgrades were analyzed and evaluated in the previously certified 1350 Adams Court EIR, and no aspect of the alternatives studied in this EIR would change its conclusions. The inclusion of the waterline discussions do not constitute new or additional CEQA analysis of waterline impacts. Development of the Project site (whether by the Proposed Project or an alternative) will be conditioned to install the upgraded waterline if this Project is constructed before the 1350 Adams Court project, and will be subject to all mitigation measures identified in the 1350 Adams Court EIR that may be applicable to waterline construction.

No Project Alternative

No additional construction would occur at the Project site with implementation of the No Project Alternative. Under the No Project Alternative, Parcel 1 would remain in its existing state with three existing buildings at 1105, 1135, and 1165 O'Brien Drive. The surface parking on Parcel 2, the Accessory Parking Lot, would also remain in its existing state with one building and surface parking. The Project site would continue to contain approximately 59,866 gsf of building area. No new discretionary approvals, including the lot merger and lot line adjustment, would be required under this alternative. Therefore, the lot merger to combine the three parcels into a single legal parcel would not occur. No additional employees would be added, resulting in the same 143 employees at the Project site. The quantity of parking spaces at the Project site would remain the same (142 spaces), which could be used by the occupants at 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court. The existing landscaping and trees would remain, and new private and publicly accessible open space would not be installed. Existing access to the Project site would remain the same, and no new site access points or circulation improvements would be constructed. A Transportation Demand Management (TDM) program would not be implemented.

Other future development in the vicinity of the No Project Alternative would require upgrading the waterline along O'Brien Drive and Adams Court. Therefore, construction of the waterline could still occur as a separate project, but not as a result of this alternative.

Base Level Alternative

The Base Level Alternative would develop a proposed building in accordance with the base-level requirements for the LS Zoning District instead of Bonus Level development. The maximum floor area ratio (FAR) would be 55 percent (this alternative assumes no café given the smaller building size, meaning it would not qualify for the additional 10 percent FAR for commercial use). For the two

development parcels site (4.12 acres or 179,538 sf), the 55 percent FAR translates to a maximum building size of 98,746 sf (versus 131, 825 sf in the Proposed Project). The base level zoning allows an average and maximum building height (i.e., 35 feet [typically 2 stories for R&D uses] versus Proposed Project heights of 100 feet maximum and 60 feet maximum average [total of 5 stories]). Consequently, there would be a reduction in the amount of floor area for life sciences purposes as well as number of life sciences employees. As with the Proposed Project, the Base Level Alternative would include life sciences uses. The Base Level Alternative would accommodate approximately 246 employees.[1] Approximately 143 employees are currently located on Parcels 1 and 2. Therefore, the Base Level Alternative would result in a net increase of approximately 103 employees at the Project site.

This Draft EIR assumes that the site plan for the Base Level Alternative would be similar to that of the Proposed Project but with a reduced building height. For a two-story building, the building footprint on Parcel 1 would be approximately 50,000 square feet—about twice that of the Proposed Project. (Laboratory ceiling height requirements and other factors result in assuming two stories.) The development of a surface parking lot at Parcel 2 would be similar as under the Proposed Project because the increased building footprint on Parcel 1 would reduce the Parcel 1 for parking. The maximum building height, 35 feet, would be less than the maximum and average heights of buildings under the Proposed Project. The Base Level Alternative would still require architectural control, a Heritage Tree Removal Permit, and a Below-Market-Rate Housing Agreement for the payment of in-lieu fees associated with the City's Below-Market-Rate Housing Program in order to ensure consistency with the development standards established in the Municipal Code and ConnectMenlo.

The Base Level Alternative would include landscape features similar to those of the Proposed Project, providing about 35,908 sf of open space (20 percent of the total site area), 17,954 sf (50 percent of the required open space, or 10 percent of the total open space) would be publicly accessible open space located along the street frontage as berms, trees, bioretention areas, and California-native vegetation plus a public pedestrian path connecting to the Hetch Hetchy right-of-way, similar to the Proposed Project. Outdoor seating/activity areas and amenities appropriate to the scale of the alternative would be incorporated into the design. Additional open space could be located on Parcel 2, due to the need for less parking under this alternative. The Base Level Alternative would be required (by the Municipal Code) to achieve LEED Silver certification[2] or equivalent for building design and construction. Furthermore, like the Proposed Project, the Base Level Alternative would implement a TDM program but at a smaller scale because of the reduced number of employees, consistent with the requirements of Menlo Park Municipal Code Section 16.44.090, to provide alternatives to single-occupancy automobile travel to and from the site.

As with the Proposed Project, the site for the Base Level Alternative would be accessible from the same access points as proposed under the Project: via three driveways, two on O'Brien Drive and one on Casey Court. Under the Base Level Alternative, vehicular, bicycle, and pedestrian routes throughout the site, as well as emergency vehicle access routes, would remain similar to the Proposed Project. However, because the Base Level Alternative would result in less building area and fewer employees, the amount of parking would be reduced accordingly. It is assumed that the reduction in the number of parking spaces would increase the amount of landscaped area.

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1 Consistent with the employee generation rate for the Proposed Project, a conservative generation rate of one employee per 400 gsf is used.

2 Per Section 16.44.130(1)(B), life science buildings between 10,000 and 100,000 gsf are required to achieve LEED Silver certification.

Reduced Base Level Alternative

The Reduced Base Level Alternative would develop a proposed building in accordance with the base-level requirements for the LS Zoning District for Parcel 1, which is approximately 2.44 acres (106,355 sf) in size. Parcel 2 would not be included as part of the Project site. The proposed building would have a floor area ratio (FAR) of 55 percent and would have a reduced average and maximum building height (i.e., 35 feet [typically 2 stories for R&D uses] versus Proposed Project heights of 100 feet maximum and 60 feet average). The Reduced Base Level Alternative would not include the allowable 10 percent FAR increase for commercial uses because the smaller building size is assumed to not include a cafe. Consequently, there would be a reduction in the amount of floor area for life sciences purposes as well as number of life sciences employees. This would equate to approximately 58,458 gsf[3] of total occupiable space in one building. As with the Proposed Project, the Reduced Base Level Alternative also assumes life sciences uses. The Reduced Base Level Alternative would accommodate approximately 146 employees.[4] In contrast, there are approximately 91 employees possible in the building space currently on Parcel 1. Therefore, the Reduced Base Level Alternative would result in a net increase of approximately 55 employees on Parcel 1.

This Draft EIR assumes that the site plan for the Reduced Base Level Alternative would be similar to that of the Proposed Project at Parcel 1 but with reduced building heights. The building footprint would be slightly larger than the Proposed Project (about 29,000 sf) despite the reduction in total space because the reduced height results in a two-story building, taking into account laboratory and other factors. Surface parking lots and landscaping would surround the proposed building. The maximum building height, 35 feet, would be less than the maximum and average heights of buildings under the Proposed Project. The Reduced Base Level Alternative would still require architectural control, a Heritage Tree Removal Permit, and a Below-Market-Rate Housing Agreement for the payment of in-lieu fees associated with the City's Below-Market-Rate Housing Program in order to ensure consistency with the development standards established in ConnectMenlo.

This Draft EIR assumes that landscape and circulation features similar to those of the Proposed Project would be installed at Parcel 1, but to a lesser extent. The open space requirement for the LS Zoning District would result in a total of 21,271 sf of open space, 10,636 sf of which would be accessible to the public along the street frontage as berms, trees, bioretention areas, and California-native vegetation. Outdoor seating/activity areas and amenities appropriate to the scale of the alternative would be incorporated into the design. This alternative does not provide a public path connecting to the Hetch Hetchy right-of-way, though a path along the property line might be included to allow a future connection when Parcel 2 redevelops in the future. Access would be provided by two driveways from O'Brien Drive. Under the Reduced Base Level Alternative, vehicular, bicycle, and pedestrian routes throughout the site, as well as emergency vehicle access routes, would be similar to Parcel 1 as under the Proposed Project. However, because the Reduced Base Level Alternative would result in less building area and fewer employees, the amount of parking would be reduced accordingly. All parking would be located at Parcel 1 in surface parking lots adjacent to the proposed building.

[3] 106,286 sf (2.44 acres) x 0.55 FAR = 58,458 gsf

[4] Consistent with the employee generation rate for the Proposed Project, a conservative generation rate of one employee per 400 gsf is used.

The Reduced Base Level Alternative also would be required (by the Municipal Code) to achieve LEED Silver certification[5] or equivalent for building design and construction. Furthermore, like the Proposed Project, the Reduced Base Level Alternative would implement a TDM program but at a smaller scale because of the reduced number of employees, consistent with the requirements of Menlo Park Municipal Code Section 16.44.090, to provide alternatives to single-occupancy automobile travel to and from the site.

Parcel 2, with 1.68 acres (73,000 sf), would not be included as part of the Project site for the Reduced Base Level Alternative; the existing conditions would remain as-is and no construction would occur. The existing 20,955-gsf building at 1 Casey Court would not be demolished and would continue to operate as an office/warehouse building with approximately 52 employees. The 44 uncovered parking stalls would remain. Parcel 2 would remain available for future development under LS Zoning District standards.

In order for any development to occur in the area of the Project site, the existing waterline would need to be upgraded. Therefore, for the purposes of this analysis, the Reduced Base Level Alternative would include the same waterline construction that would occur under the Proposed Project, as previously analyzed by the certified 1350 Adams Court EIR.

5.3 Attainment of Project Objectives

An evaluation of how each alternative meets or does not meet the basic Project objectives is provided below. Pursuant to State CEQA Guidelines Section 15126.6(a), this analysis compares the alternatives to the objectives of the Project. As described in detail above, there are three alternatives for the Project: the No Project Alternative, the Base Level Alternative, and the Reduced Base Level Alternative. The following analysis describes the extent to which these alternatives meet or do not meet the Project objectives as described in Chapter 2, Project Description, and discussed above.

No Project Alternative

The No Project Alternative would not meet the primary objectives of the Proposed Project—specifically, to build a new cutting-edge life science building that would grow a broad socioeconomic base of jobs and generate tax revenue for the City, as well as to provide community amenities for the surrounding neighborhoods. Instead, the Project site would remain in its current condition and would not provide a cutting-edge, sustainably and aesthetically designed, LEED Gold certified, life science building that would cater to the Bay Area and Stanford entrepreneurial community, as well as life sciences companies both regionally and nationally. The No Project Alternative would not redevelop the Project site and would not construct the proposed building and surface parking, and would not provide any publicly accessible open space and circulation improvements. Instead of the approximately 185 net new jobs created under the Proposed Project, the No Project Alternative would result in no new jobs at the Project site. Tax revenues for the City would stay the same rather than increase with implementation of the Proposed Project. The No Project Alternative would not provide community amenities consistent with ConnectMenlo goals and policies. In addition, the No Project Alternative would not include a public open space path connecting O'Brien Drive to potential future public open space on the Hetch Hetchy right-of-way. As such, the No Project Alternative would not meet the primary objectives of the Proposed Project.

[5] Per Section 16.44.130(1)(B), life science buildings between 10,000 and 100,000 gsf are required to achieve LEED Silver certification.

Base Level Alternative

The Base Level Alternative would meet many of the Project objectives, but to a lesser extent than the Proposed Project. The reduction in life sciences space would limit buildout of a project that would attract and accommodate future tenants by allowing them to operate at a desired level of productivity compared with operations under the Proposed Project. The Base Level Alternative would develop the Project site with a building program similar to that under the Proposed Project and would likewise require a lot merger and/or lot line adjustment. The Base Level Alternative would translate into approximately 246 employees instead of the 328 associated with the Project. With implementation of the TDM plan, vehicle miles traveled (VMT) generated by the Base Level Alternative would be reduced by 27.3 percent. Although not a specifically stated objective, a reduction in life science space would not fully achieve the Project Sponsor's needs related to growth.

The Project site would be developed at a lower development density than under the Proposed Project, with an FAR of approximately 55 percent on both Parcels 1 and 2. Therefore, the Base Level Alternative would generate less revenue for the City's tax base. Because it is assumed that the building program would not be substantially different under the Base Level Alternative, the objectives to develop space that will accommodate life science employees and jobs in the new Life Sciences district and to develop an environmentally sustainable, high-quality aesthetic facility with the flexibility to accommodate a single life science tenant or meet the needs of multiple tenants would be achieved. The Base Level Alternative would not provide community amenities for surrounding neighborhoods. It would achieve Silver LEED certification or equivalent for building design and construction, based on its reduced square footage, as opposed to Gold certification under the Proposed Project. Similar to the Proposed Project, the Base Level Alternative would implement a TDM program to provide alternatives to single-occupancy automobile travel. In addition, the Base Level Alternative, like the Proposed Project, would meet the objective of enhancing public accessibility from O'Brien Drive to potential future public open spaces along the Hetch Hetchy right-of-way while providing private (non-public) open space opportunities onsite.

Reduced Base Level Alternative

The Reduced Base Level Alternative would meet many of the Project objectives, but to a lesser extent than the Proposed Project. The reduction in life sciences space would limit buildout of a project that would attract and accommodate future tenants by allowing them to operate at a desired level of productivity compared with operations under the Proposed Project. The Reduced Base Level Alternative would develop only on Parcel 1 with a building program similar to that under the Proposed Project and would likewise require a lot merger and/or lot line adjustment. The Reduced Base Level Alternative would translate into approximately 146 employees instead of the 328 associated with the Proposed Project (plus the existing 52 employees who would remain on Parcel 2).

The Project site would be developed at a lower development density than under the Proposed Project, with an FAR of approximately 55 percent on Parcel 1. Therefore, the Reduced Base Level Alternative would generate less revenue for the City's tax base. Because it is assumed that the building program would not be substantially different under the Base Level Alternative, the objectives to develop space that will accommodate life science employees and jobs in the new Life Sciences district and to develop an environmentally sustainable, high-quality aesthetic facility would be achieved, but the smaller building would limit the ability to accommodate the needs of multiple tenants. The Reduced Base Level Alternative would not provide community amenities for surrounding neighborhoods. The building would achieve Silver LEED certification or equivalent for building design and construction, based on its reduced square

footage, as opposed to Gold certification under the Proposed Project. Similar to the Proposed Project, the Base Level Alternative would implement a TDM program to provide alternatives to single-occupancy automobile travel. Without development of Parcel 2, the Reduced Base Level Alternative would not include a public open space path connecting O'Brien Drive to potential future public open space on the Hetch Hetchy right-of-way since Parcel 1 does not share a property line with the Hetch Hetchy right-of-way.

5.4 Alternatives Considered but Rejected

Section 15126.6(c) of the CEQA Guidelines provides that an EIR should "identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." The screening process for identifying the viable EIR alternatives included consideration of the following criteria.

- Ability to meet the project objectives
- Potential ability to substantially lessen or avoid environmental effects associated with the proposed project
- Potential feasibility, taking into account economic, environmental, social, technological, and legal factors

The discussion below describes the alternatives that were considered during preparation and scoping of this EIR and gives the rationale for eliminating these alternatives from detailed consideration, including because they would not fulfill most of the basic objectives of the project, would not avoid or substantially lessen significant environmental impacts, and/or would be infeasible.

Alternative Locations

State CEQA Guidelines Section 15126.6(f)(2) states that a Draft EIR must consider offsite alternatives if such alternatives reduce environmental impacts of the Proposed Project. As stated in State CEQA Guidelines, Section 15126.6(f)(1), factors that may be considered when a lead agency is assessing the feasibility of an alternative include:

> site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).

Most of the significant impacts of the Proposed Project would most likely occur regardless of location, meaning that an offsite alternative would not necessarily reduce or avoid any identified or potential environmental impacts. In addition, alternative locations for the Proposed Project are considered infeasible, because the Project Sponsor owns the four parcels that make up the Project site, which are compatible with existing general plan and zoning. In fact, the Project Sponsor initially proposed an alternative location that it also owns, but that location was ultimately rejected by the Project Sponsor because it would require amendments to the City General Plan and Zoning Map to allow a use similar to the Proposed Project. An alternate location not owned by the Project Sponsor where R&D uses are already permitted would therefore require additional land acquisition, which is not included in the Project Sponsor's plans or objectives. In addition, the Project site is within the area of the existing Menlo Park Labs campus owned by the Project Sponsor. In summary, the lack of an alternative site that is owned by the Project Sponsor and does not require changes to the General Plan and Zoning provides reasons under CEQA for not considering an offsite alternative.

Although the Proposed Project could be constructed on parcels of a similar size in proximity to the Project site (e.g., Redwood City, East Palo Alto, Mountain View), no alternative sites have been identified that could accommodate the proposed development, given the overall scarcity of land and the existing land use and zoning designations. Developing outside the LS district and outside Menlo Park would not meet the objective of improving the tax base for the City or furthering the City's general plan and zoning goals regarding the LS Zoning District. Therefore, because of the aforementioned issues related to site suitability, economic viability, acquisition and control, and inconsistency with Project objectives, consideration of an alternative site for the Proposed Project has been rejected. This Draft EIR does not analyze an alternative with an offsite location.

Alternative Use Scenarios

Alternatives that would consist of permanent uses other than R&D uses (i.e., office, mixed-use, general industrial) were not considered because they would not be consistent with applicable zoning and City General Plan land use designations and policies for the property. According to Section 16.44 of the City's Municipal Code (LS Life Sciences District), the purpose and intent of the life science district 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. Therefore, an alternative that does not include life science or R&D uses at the Project site would be inconsistent with City zoning and land use designations. In addition, uses other than life sciences would not be consistent with uses on the rest of the Menlo Park Labs Campus or with Project objectives.

Alternative use scenarios have the potential to increase the Project's significant impacts to noise, as well as other impacts like transportation and air quality due to potential increases in construction and onsite operational activities. In addition, non-life science uses could have a greater impact on topics that were scoped out in the Initial Study, such as utilities and public services. The Project site is designated as Life Sciences-Bonus (LS-B) in the City General Plan and zoned LS under the City Zoning Ordinance as part of ConnectMenlo. Neither of these designations permits development other than that associated with life sciences uses; alternative development would not be consistent with existing land uses in the vicinity of the Project site. Specifically, any other type of development at the site would not be consistent with current ConnectMenlo direction and policies, which are intended to preserve land in the Menlo Park Labs Campus for employment uses. Most importantly, any other type of development would be inconsistent with virtually all of the Project objectives. Therefore, this alternative was rejected because of its inability to meet basic Project objectives.

Maximum Bonus Alternative

Under the Maximum Bonus Alternative, the Proposed Project would be developed at the maximum bonus level of development allowed in the LS-B zoning district. As such, the approximately 4.12-acre site (Parcel 1 and Parcel 2) would be developed with a FAR of 125 percent and a maximum building height of 110 feet. The Proposed Project includes a FAR of 125 percent for Parcel 1 only. The substantial increase in building size and height would accommodate more employees at the Project site, and with a greater FAR, the buildings could cover a larger portion of the Project site. Increasing the size of the building would result in longer construction times, which would increase impacts related to air quality and noise. An increase in the number of employees would also result in additional traffic (with increased VMT) and increased air quality, GHG, and noise impacts. This alternative has been rejected because these greater impacts would occur without commensurate improvements in sustainability or other

offsetting benefits. Furthermore, it is not appropriate or necessary for an EIR to consider alternatives involving more development than the Proposed Project because the fundamental purpose is to identify alternatives that might reduce the impacts of the Proposed Project, and this alternative would not avoid or substantially reduce a significant impact of the Proposed Project. Therefore, this alternative has been rejected from further review.

Reduced Parking Alternative

The Proposed Project would include a parking supply that is within the range for required parking per the life science (LS) zoning requirements, which are 1.5 to 2.5 stalls per 1,000 sf. For the building area proposed, this would equate to 197 to 328 stalls. The Proposed Project would provide 229 parking spaces at a ratio of 1.75 stalls per 1,000 sf. The Proposed Project also includes a transportation demand management (TDM) plan that would meet the requirements of the City of Menlo Park Zoning Ordinance. Implementation of the TDM plan, not parking supply reductions, would reduce the vehicle miles traveled (VMT) for the Proposed Project.

As discussed above, one requirement of a viable alternative is that it avoids or substantially lessens any significant effect of a project (CEQA Guidelines Section 15126.6[a]). Significant impacts related to VMT would include the VMT impact itself, as well as any significant GHG emissions impacts that are tied to VMT. With implementation of the Project's TDM plan (as required per Mitigation Measure TRA-2), the VMT impacts and the GHG impacts related to VMT would be less than significant with mitigation.

In addition, the Proposed Project and the Project area do not have the characteristics needed for reduced parking to result in additional reduction in VMT beyond the reductions already accounted for through the TDM plan. Reducing parking would introduce a potential for spillover parking because adjacent neighborhoods generally do not have controlled parking through permits, time limited parking, or on-street market-rate parking (metered parking), meaning vehicle trips could continue to the area. The Project site is not particularly well served by transit that would replace vehicle trips. Reductions in the Proposed Project's parking supply could also lead to an increase in vehicles trips if visitors and workers turn to ride hailing to make their trips to the site. If the proposed café remains the same size, the number of customer vehicle trips is expected to remain negligible. Therefore, a reduction of parking at the Project site is more likely to cause spill-over parking effects onto nearby residential streets and commercial development. In addition, the Proposed Project would implement Mitigation Measure TRA-2 to reduce environmental impacts related to VMT to less than significant, so that no further mitigation measures are required. Since 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 has been rejected from further evaluation.

Parking Garage Alternative

The Parking Garage Alternative was originally submitted as the site plan for the Proposed Project in 2019. The Parking Garage Alternative would involve demolition of the three existing buildings at the Building Lot (Parcel 1) and construction of a 131,825-gsf R&D building. The building would be oriented in an east-west direction, with the southern frontage along O'Brien Drive being the front façade. The entry lobby with a 2,390-gsf café would be on the ground floor, at the center of the south elevation. In addition, a 200-gsf chemical storage area would be provided north of the R&D building, in the truck dock/loading area. The main lobby and the first floor would be more than 2 feet above the base flood elevation, as required by the LS zoning district. No basement would be constructed. Parcel 2 would not be developed as part of this alternative.

Attached to the western façade of the R&D building would be a 117,135-gsf parking garage, with access provided from O'Brien Drive via a driveway in the southwest corner of the Project site. The parking garage would have five tiers of parking and a maximum height of 69 feet. Up to 309 stalls would be provided in the parking garage. Each tier of the parking structure would provide 14,015 to 27,478 sf of parking area. The roof of the parking garage would feature 12,997 sf of useable outdoor space for tenants, including landscaping, seating areas, circulation areas, and sports courts. The roof of the parking garage would also include 13,870 gsf of amenities, including a fitness center for employees. Upon full buildout, it is estimated that approximately 328 employees would occupy the proposed building. No construction or new development would occur on Parcel 2, which would remain as is and available for future development.

The Parking Garage Alternative would not reduce the building area, number of employees, or vehicle trips compared to the Proposed Project. Therefore, use of this alternative project would result in similar transportation, air quality, and noise impacts as the Proposed Project and would not serve to reduce the impacts. Since the number of employees at the Project site would be the same under the Proposed Project and the Parking Garage Alternative, all impacts related to trip generation (VMT and traffic, air quality, GHG, and noise) would be the same. In addition, building-related operational impacts would be generally the same, such as air emissions and noise from HVAC equipment.

No demolition or construction would occur at Parcel 2 under the Parking Garage Alternative. However, construction of a parking garage on Parcel 1 instead would result in more intense activity than the Proposed Project because there would be more construction phases and equipment necessary to build the parking garage. The Wund3rSCHOOL/Open Mind School is located upwind from the proposed construction activities at Parcel 1. Therefore, with the increase in distance between the construction at Parcel 1 and the Wund3rSCHOOL/Open Mind School, as well as the school being upwind from the construction activities, this alternative would reduce the cancer risk for school receptors (which would result in a less than significant impact). However, construction of the Parking Garage Alternative would require more intensive construction activities on Parcel 1, which may increase the cancer risk at the residential units to the south compared to the Proposed Project. Nonetheless, similar to the Proposed Project, construction of the Parking Garage Alternative would not extend beyond the southern boundary of Parcel 1 and therefore would not be closer to sensitive receptors. In addition, the Parking Garage Alternative construction schedule length would be longer than that of the Proposed Project (22 months versus 16 months) and therefore would expose sensitive receptors to a longer duration of diesel particulate matter (DPM) emissions. Therefore, the Parking Garage Alternative would not be located closer to sensitive receptors, but would have a longer construction schedule than the Proposed Project, and would be required to implement Project Mitigation Measure AQ-2. The cancer risk from the construction of the Parking Garage Alternative would be somewhat greater than that of the Proposed Project.

Construction noise and vibration impacts on the Wund3rSCHOOL/Open Mind School would be less than the Proposed Project given there would be no demolition or construction on Parcel 2. However, construction of the tall garage might cause increased noise impacts on residences in the area, and the longer overall construction schedule would extend the duration of noise impacts.

As previously noted, the Parking Garage Alternative is similar to the site plans submitted by the Project Sponsor in 2019. However, this site plan is no longer economically feasible for the Project Sponsor. Given the post-COVID changes to global financial markets, the building would need to be even larger to justify the additional development costs. A fiscal analysis prepared by the Project Sponsor shows that due to effects of the COVID pandemic and other circumstances, construction costs have increased

substantially, along with an increase in interest rates and the cost of capital, and lenders now expect higher return on investments to provide financing. In addition, development of competing life science facilities in surrounding areas also constrains potential rents and increases tenant improvement costs and allowances expected from a property owner.[6]

In conclusion, the Parking Garage Alternative would not be feasible because, while impacts related to development on Parcel 2 would be reduced, other impacts related to construction would continue to occur or would increase. In addition, the alternative would not meet the objective a high-quality aesthetic facility, and the alternative is not economically feasible for the Project Sponsor. Therefore, this alternative has been rejected from further evaluation.

No Natural Gas Alternative

The No Natural Gas Alternative would develop the proposed building in the same manner as the Proposed Project, with one exception. Under the No Natural Gas Alternative, the building would be completely electric and would not include any natural gas infrastructure. The building associated with the No Natural Gas Alternative would have the same FAR and gross square footage, the same building footprint and height, and the same number of employees as the Proposed Project. The same amount of open space would also be provided as the Proposed Project. The No Natural Gas Alternative would reduce the significant and unavoidable GHG emissions related to natural gas infrastructure to a less-than-significant level.

According to the natural gas justification memo prepared by the Project Sponsor,[7] and validated by a subsequent third-party peer review, due to system reliability and site geographic constraints, all-electric space conditioning is an infeasible alternative at this time. For buildings that are primarily office buildings and do not include life science laboratory space, the use of an all-electric design is feasible with the technologies that have been in place and vetted for years. With the recirculation function of offices and the relatively light loads as compared to laboratory buildings coupled with the less "mission critical" issues of the HVAC systems, the use of all-electric design can be implemented as much as possible to reduce carbon emissions and increase energy performance of these type buildings. By contrast, buildings that include laboratory space (as proposed under the 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 percent 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.

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 building, the heating capacity, and the lab usage. Life science 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, then fluctuation could affect experimentation,

[6] Tarlton. 2022. "RE: Analysis of Feasibility of Developing a Parking Garage at 1125 O'Brien." Memorandum to David Hogan, Planner, City of Menlo Park. December 8, 2022.

[7] Western Allied Mechanical. 2022. "All-Electric Feasibility Analysis 1125 O'Brien Drive Menlo Park, CA 94025." Memorandum from Zachary Russi, P.E., LEED AP, President, to David Hogan, City of Menlo Park Contract Planner. October 4, 2022.

production, R&D, and other aspects that are critical for lab facilities. This is particularly of concern with a large load operation such as for the Proposed Project, which would be used by life science tenants that cannot have a climate system failure, even for brief periods. Consequently, the No Natural Gas Alternative would be infeasible for serving a life science building at this time. Furthermore, preventing use of the building for life science purposes would be inconsistent with the direction and goals of the ConnectMenlo General Plan and "LS" zoning designation. Therefore, this alternative has been rejected from further evaluation.

5.5 Impact Assessment

This section evaluates how potential impacts of the Proposed Project would compare to the proposed alternatives, and whether the alternatives would reduce the impacts of the Project and/or would generate impacts other than those identified for the Proposed Project. Unless otherwise noted, the analysis assumes that each alternative would be subject to the same mitigation measures as the Proposed Project, where applicable. The mitigation measures are fully described in each resource section within Chapters 3 and 4 of this EIR. In addition, a comparative analysis of the Proposed Project and the evaluated alternatives is provided in Table 5-4, at the end of this section.

No Project Alternative

Transportation

The No Project Alternative would continue existing conditions at the Project site. The only vehicle trips to and from the Project site would be associated with existing uses at 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court. No circulation improvements would be constructed. Therefore, the No Project Alternative would result in no additional vehicle trips and no transportation-related impacts beyond those currently occurring with the existing use. (NI)

Air Quality

The No Project Alternative would not result in new uses at the Project site. Therefore, the amount of criteria pollutant emissions currently generated at the Project site by existing uses at 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court would remain the same. No new construction or operational emissions would be emitted. Since no new development would be constructed or operated under the No Project Alternative, no growth would occur, and there would be no conflict with any applicable air quality plan. While the Proposed Project would result in less-than-significant impacts with mitigation, no impacts to air quality would result with the No Project Alternative. (NI)

Greenhouse Gas Emissions

The No Project Alternative would not involve construction activities and would not result in net new direct GHG emissions from construction equipment. Additionally, no net new direct GHG emissions from area and mobile sources or indirect emissions from electricity generation, solid waste generation, or water consumption would be emitted, because there would be no additional land uses operating at the Project site. Since this alternative would not construct the new building, and no new uses would operate at 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court, there would be no increase in GHG emissions above existing levels, resulting in no impact. This alternative would avoid the significant and unavoidable GHG impact under the Proposed Project. (NI)

Noise

Since no construction would occur under the No Project Alternative, no construction noise would be generated. Operational noise at the Project site would remain the same because vehicle trips to the Project site as a whole (including 1105, 1135, and 1165 O'Brien Drive and 1 Casey Court) would not increase. In addition, the No Project Alternative would not add roof-mounted mechanical equipment (e.g., heating, ventilation, and air-conditioning (HVAC) systems or generators) on the property. Therefore, the No Project Alternative would avoid the construction and operational noise and vibration impacts that would occur under the Proposed Project, resulting in no impacts. (NI)

Population and Housing

The No Project Alternative would result in no increase in employment levels at the Project site over existing conditions. Accordingly, the No Project Alternative would not result in a demand for new housing units within the City or nearby local jurisdictions. The No Project Alternative would avoid any population growth, resulting in no impact. (NI)

Cultural and Tribal Cultural Resources

Since no construction would occur under the No Project Alternative, no demolition, grading, or ground disturbing activities would occur. Therefore, the No Project Alternative would not affect or disturb archaeological and tribal cultural resources. The No Project Alternative would avoid any impacts on archaeological and tribal cultural resources, resulting in no impact. (NI)

Biological Resources

Because no construction would occur, no demolition, grading, or ground disturbing activities would occur with the No Project Alternative. No vegetation or trees would be removed as compared to the removal of 39 trees (12 of which are heritage trees) with the Project. Thus, the No Project Alternative would avoid all construction-related and vegetation-removal impacts to biological resources. Likewise, all operational impacts on biological resources would be avoided. (NI)

Base Level Alternative

The potential impacts associated with the Base Level Alternative are described below. As discussed in Section 5.2, under the Base Level Alternative, the Project site (Parcel 1 and Parcel 2) would be developed with life sciences uses, consistent with the existing zoning designation and at a reduced density compared with the Proposed Project. As described above, the Base Level Alternative would include a reduction in FAR (from 124 percent on Parcel 1 under the Proposed Project to 55 percent on both parcels). This would equate to an approximately 98,746-gsf life sciences building and approximately 246 employees. The maximum building height would be 35 feet. The site plan for the Base Level Alternative would be similar to that for the Proposed Project but at a reduced scale, except for the larger building footprint and less required parking. Because of the lower building height and smaller project, no rooftop private open space deck is assumed to be included with this project alternative. Parcel 1 would include the proposed building and much of the open space, while Parcel 2 would include surface parking lots similar to the Proposed Project. It is anticipated that a similar amount of open space would be located at the Project site. Despite the building footprint being larger, all footprint-based impacts are expected to be similar to those of the Proposed Project, as explained below. Construction of the waterline as previously evaluated by the certified 1350 Adams Court EIR would be the same as under the Proposed Project.

Transportation

Under the Base Level Alternative, the site would be developed with life sciences uses, similar to development under the Proposed Project, although to a reduced extent. The transportation and circulation changes under the Base Level Alternative, including site access, parking, and implementation of a TDM plan, would be similar to those of the Proposed Project. VMT per capita would not be reduced since a smaller project could result in fewer carpooling opportunities and more solo driving. Therefore, as explained in more detail below, the Base Level Alternative would result in similar or reduced impacts related to the various transportation topics, including VMT; hazards due to a design feature or incompatible use; compliance with plans, policies, and ordinances; and emergency access.

Travel demand under the Base Level Alternative was estimated for the daily weekday a.m. and p.m. peak periods. The vehicle trip generation estimates for the proposed life sciences uses were calculated using the trip generation rates from the Institute of Transportation Engineers *Trip Generation Manual*, 11th edition. As with for the Proposed Project, the Research and Development Center (ITE Code 760) category was applied to the proposed life sciences use. Consistent with Menlo Park Transportation Impact Analysis guidelines, vehicle trip reductions were taken into account for the TDM program.[8] The resulting trip generation is provided in Table 5-2, along with a comparison between new vehicle trips generated under the Base Level Alternative and those of the Proposed Project.

Table 5-2. Base Level Alternative Trip Generation Compared to Proposed Project

Land Use	Size	Unit	Daily Trips	Total AM Peak-Hour Trips	Total PM Peak-Hour Trips
Base Level Alternative					
R&D[a]	98.7	ksf	1,094	102	97
Reductions					
20 Percent TDM Trip Reduction			*(219)*	*(20)*	*(19)*
Base Level Alternative Total			**875**	**82**	**78**
Proposed Project Trips with TDM Reductions	131.8	ksf	1,169	109	103
Difference (Base Level Alternative minus Proposed Project)			**(294)**	**(27)**	**(25)**
			25%	**25%**	**24%**
			Reduction	**Reduction**	**Reduction**

Source: Institute of Transportation Engineers. 2021. *Trip Generation Manual*, 11th edition; Hexagon Transportation Consultants, 2023.

Notes:

a. Land Use Code 760: Research and Development Center (average rates, expressed in trips per 1,000 gsf of floor area).
ksf = thousand square feet

As shown in Table 5-2, the Base Level Alternative would generate 294 fewer vehicle trips on a daily basis, with 27 fewer vehicle trips during the weekday a.m. peak hour and 25 fewer vehicle trips during the weekday p.m. peak hour. Because of the reduction in size, the Base Level Alternative would result in

8 Kimley Horn, Inc. January 26, 2021. *Transportation Demand Management (TDM) Memorandum for 1125 O'Brien Drive.*

a 25, 25, and 24 percent reduction in the number of vehicle trips compared with the Proposed Project on a daily, weekday a.m. peak-hour, and weekday p.m. peak-hour basis, respectively. This reflects fewer employees, visitors, and deliveries.

Conflict with Applicable Plans, Ordinances, or Policies. As part of the City's entitlement process, the Base Level Alternative would be required to comply with existing regulations, including City General Plan policies and zoning regulations. The Base Level Alternative would be reviewed in accordance with the Transportation Program standards and guidelines of the City Public Works Department. The department would provide oversight during the engineering review, ensuring that construction would be consistent with City specifications.

As with the Proposed Project, this alternative would provide adequate bicycle and pedestrian infrastructure and would represent an overall improvement to bicycle and pedestrian access and circulation. The Base Level Alternative would meet zoning ordinance requirements for vehicle and bicycle parking and would implement TDM measures in an effort to reduce the number of vehicle trips and encourage travel by modes other than automobile. Therefore, the Base Level Alternative, like the Proposed Project, would have a less-than-significant impact in terms of compliance with applicable plans, ordinances, and policies. (LTS)

Vehicle Miles Traveled. The VMT impact under the Base Level Alternative would be the same as under the Proposed Project. Estimated average daily VMT per capita for office/R&D uses within the Project site's Transportation Analysis Zone (TAZ) is 18.7, which is higher than the VMT threshold of significance of 13.6. VMT per capita would not be reduced under this alternative because a smaller project could result in fewer carpooling opportunities and more solo driving. A 27.3 percent reduction in VMT for this alternative would be needed to get below the VMT threshold of significance, which is the same as the Proposed Project.

The estimated VMT does not account for the Proposed Project's TDM plan, which would also be implemented under the Base Level Alternative. Without TDM measures, the Proposed Project and Base Level Alternative may result in a substantial level of additional VMT, and impacts would be significant. A TDM plan was prepared for the Proposed Project (and would also be required for the Base Level Alternative) by Kimley-Horn (see Appendix 3.1) to reduce both the number of trips and VMT. With implementation of the TDM plan, VMT generated by the Base Level Alternative would be reduced by more than 27.3 percent. Therefore, Mitigation Measure TRA-2.1, which requires implementation of the prescribed TDM plan, would be required to reduce VMT generated by the Base Level Alternative to a less-than-significant level, similar to the Proposed Project. (LTS/M)

Hazards Due to a Design Feature or Incompatible Use. Although the Base Level Alternative would add vehicles at nearby intersections, this alternative would not result in physical changes to the study intersections. Therefore, because design features at the intersections would not be altered as a result of the Base Level Alternative, collision rates are not expected to increase, and no additional hazards would occur.

The Base Level Alternative would provide the same bicycle and pedestrian infrastructure as the Proposed Project, which would be adequate, and an overall improvement compared to existing infrastructure, and would not create potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations. Additionally, the Base Level Alternative, as with the Proposed Project, would require approval by the City's Public Works Department Transportation Program to ensure it is constructed according to City specifications. (LTS)

Emergency Access. Emergency access to the Project site and nearby hospitals with the Base Level Alternative would be the same as under the Proposed Project, which would be similar to existing conditions and would therefore be adequate. The general increase in vehicle traffic from the Project site would not be expected to inhibit emergency access to the Project site or materially affect emergency vehicle response at the nearest fire station. Development of the Project site, and associated increases in vehicles, pedestrians, and bicycle travel would not substantially affect emergency vehicle response times or access to other buildings or land uses in the area or to hospitals. The Base Level Alternative would be designed and built according to the same standards as the Proposed Project to ensure that emergency access would not be impaired. (LTS)

Cumulative Impacts. Cumulative transportation impacts with the Base Level Alternative would be less than the Proposed Project. Future development would be required to comply with existing regulations, including current general plan policies and zoning regulations that are intended to minimize impacts related to transportation and circulation. Therefore, as with the Proposed Project, this alternative, in combination with cumulative projects, would have a less-than-significant impact with respect to conflicting with adopted policies, plans, or programs related to transportation. As with the Proposed Project, the Base Level Alternative 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, which is expected to reduce VMT per employee within the study area where the Project site is located. Consistent with the findings of the ConnectMenlo EIR, the Base Level Alternative (as with the Proposed Project), with Project Mitigation Measure TRA-2.1, would have a cumulative impact with respect to VMT that would be less than significant with mitigation. The Base Level Alternative would not result in an increase in hazards or inadequate emergency access; therefore, this alternative, in combination with cumulative projects, would result in a less-than-significant cumulative impact with respect to design features or incompatible uses. All cumulative impacts under the Base Level Alternative would be similar to, or slightly less than, those of the Proposed Project. (LTS/M)

Air Quality

Construction Criteria Air Pollutant Emissions. Similar to the Proposed Project, construction of the Base Level Alternative would require the use of heavy equipment and other mobile sources that would generate criteria pollutants. Construction of the waterline would be the same as under the Proposed Project. However, the Base Level Alternative would result in a potentially shorter construction period due to a smaller building and shorter building heights. It would require less construction equipment and fewer vehicles compared with the Proposed Project. Therefore, total construction emissions generated by the Base Level Alternative during the duration of Base Level Alternative construction would most likely be similar to or less than those of the Proposed Project. Daily construction emissions from operation of onsite equipment and on-road vehicles under the Proposed Project would be below the Bay Area Air Quality Management District's (BAAQMD's) significance thresholds for reactive organic gas (ROG), nitrogen oxides (NO_X); therefore, the Base Level Alternative would not exceed any BAAQMD threshold. BAAQMD's-recommended best management practices (BMPs) along with ConnectMenlo EIR Mitigation Measure AQ-2b1 would be implemented to reduce particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$) from fugitive dust emissions. With implementation of the ConnectMenlo EIR mitigation measures, this impact from PM_{10} and $PM_{2.5}$ from fugitive dust emissions would be less than significant. (LTS/M)

Operational Criteria Air Pollutant Emissions. Operational emissions from both the Proposed Project and Base Level Alternative have the potential to create air quality impacts, primarily impacts associated with direct emissions from mobile sources. Motor vehicle traffic would include automobiles associated with daily employee trips and delivery trucks. The Base Level Alternative would result in fewer vehicle trips because of the reduction in floor area and the number of employees. The Base Level Alternative would generate 294 fewer vehicle trips on a daily basis, compared to the Proposed Project. The Base Level Alternative also would have an emergency generator requiring weekly testing.

Impacts from operational emissions were found to be below BAAQMD-recommended mass emission thresholds for the Proposed Project (see Table 3.2-7). Because the Base Level Alternative is a smaller project than the Proposed Project, the operational emissions from the Base Level Alternative are expected to be less than that of the Proposed Project. Therefore, similar to the Proposed Project, operation of the Base Level Alternative would not result in a cumulatively considerable net increase in any criteria air pollutant for which the San Francisco Bay Area Air Basin is designated as a nonattainment area with respect to the federal or state ambient air quality standards. Mitigation measures, including ConnectMenlo EIR Mitigation Measure AQ-2a, would not be required. Similar to the Proposed Project, this impact would be less than significant. (LTS)

Exposure of Existing Sensitive Receptors to Substantial Pollutant Concentrations during Construction. Diesel-fueled engines, which generate DPM, would be used during construction of the Base Level Alternative, similar to the Proposed Project. Multiple sensitive receptors are within 1,000 feet of the Project site, including residences and a school. The Proposed Project's construction would result in a less than significant increase in the cancer risk for residential receptors near the Proposed Project. The Base Level Alternative would result in a reduction in floor area compared with the Proposed Project. As discussed above, daily construction activity could be comparable to that of the Proposed Project. However, the Base Level Alternative's cancer risk could be less than that of the Proposed Project because the construction period would be shorter, and thus overall duration that sensitive receptors would be exposed to DPM, would be shorter. The Base Level Alternative's cancer risk would be below the applicable thresholds with implementation of Project Mitigation Measure AQ-2.1, which would reduce DPM exposure. Similar to the Proposed Project, with implementation of Mitigation Measure AQ-2.1, the Base Level Alternative would not exceed BAAQMD thresholds for cancer risk. This impact would be less than significant with mitigation. (LTS/M)

Exposure of Existing Sensitive Receptors to Substantial Pollutant Concentrations from Project Operation. The Base Level Alternative is also assumed to include an emergency generator. Emissions resulting from the generator would be similar to the Proposed Project, because the generator testing schedule of fifteen minutes per week would not be affected by the differences between the Base Level Alternative and the Proposed Project. Traffic generated by the Proposed Project would have the potential to create CO hot spots at nearby roadways and intersections. However, because the Base Level Alternative would generate less traffic than the Proposed Project, the CO emissions would be lower. Regardless, for both the Proposed Project and the Base Level Alternative, CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards, resulting in less-than-significant impacts. (LTS)

Cumulative Impacts. For the reasons described above, the Base Level Alternative in combination with other development in Menlo Park would not conflict with or obstruct implementation of the applicable air quality plan and would not result in a cumulatively significant impact. In addition, the Base Level Alternative in combination with other development in Menlo Park would be consistent with the Clean Air Plan. Similar to the Proposed Project, with implementation of Project Mitigation Measure AQ-2.1, the

Base Level Alternative would not exceed BAAQMD's cumulative thresholds for $PM_{2.5}$ concentrations, the hazard index, or cancer risks associated with construction and operation. Consequently, the cumulative impact regarding health risks for sensitive receptors would be less than significant with mitigation. (LTS/M)

Greenhouse Gas Emissions

GHG Emissions during Project Construction. Construction of the Base Level Alternative would generate carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from the exhaust of mobile and stationary construction equipment, employees' vehicles, and haul trucks. The construction period could be shorter with this alternative because of the smaller building area, and thus total GHG emissions would be reduced. BAAQMD's CEQA Guidelines do not recommend a GHG emission threshold for construction-related emissions; therefore, construction of the Base Level Alternative would not exceed thresholds. However, the guidelines recommend implementation of BMPs to help control or reduce GHG emissions. Therefore, the impact from construction of the Base Level Alternative would be less than the GHG construction impact from the Proposed Project and would thus be considered less than significant with implementation of Project Mitigation Measure GHG-1.1. (LTS/M)

GHG Emissions during Project Operation and Conflicts with Applicable GHG Emission Plans, Policies, and Regulations. Operation of the Base Level Alternative would generate fewer direct and indirect GHG emissions than the Proposed Project because of a decrease in building area and the number of employees. Therefore, this alternative would result in fewer vehicle trips (with a further reduction with the implementation of Mitigation Measure TRA-2.1), a lower level of electricity and natural gas consumption, and lower levels of waste and wastewater generation. Although the Base Level Alternative would still increase direct and indirect GHG emissions compared with existing conditions, there would be a reduction in the number of employees, which would have an appreciable effect on mobile GHG emissions compared to the Proposed Project.

Nonetheless, like the Proposed Project, the Base Level Alternative would include the use of natural gas and natural gas infrastructure for operation of the building, albeit the amount of natural gas used by the Base Level Alternative would be less than the Proposed Project due to the smaller size of the building. The Base Level Alternative, like the Proposed Project would not be consistent with the BAAQMD GHG thresholds for land-use projects, because of the installation of natural gas infrastructure. While the Base Level Alternative would purchase offset credits in compliance with the Zoning Ordinance like the Proposed Project, by perpetuating the use of fossil fuel infrastructure for the life of the Proposed Project, the Base Level Alternative (like the Proposed Project) would conflict with the statewide carbon neutrality goal for 2045. As such, the Base Level Alternative would not avoid the significant impact that would occur for the Proposed Project, and the impact from operation of the Base Level Alternative related to GHG emissions and conflicts with applicable GHG emission plans would also be significant and unavoidable. (SU)

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 GHGs 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. (SU)

Noise

Exposure to Excessive Noise Levels in Excess of Local or Applicable Standards. The Base Level Alternative would expose persons to or generate noise levels in excess of standards established in the general plan, noise ordinance, or applicable standards, as is the case with the Proposed Project.

Project Site Construction. As with the Proposed Project, construction of the Base Level Alternative would require the use of heavy equipment that would temporarily increase noise levels at properties near the work sites. However, the Base Level Alternative would result in a reduced building area, building height, and surface parking areas, likely reducing the duration of construction. Therefore, due to the potentially shorter construction periods, noise levels at a given time during construction would be similar to, or slightly less than, the levels expected under the Proposed Project. Estimated reasonable worse-case construction noise levels for the Base level Alternative would be the same as those reported for the Proposed Project. In addition, construction work hours for the Base Level Alternative would very likely be comparable to those of the Proposed Project.

The Base Level Alternative would be expected to have less construction noise impacts on the Wund3rSCHOOL/Open Mind School (school building and school yard). Demolition of the existing structures at Parcel 2 would be required for construction of the surface parking lot under the Base Level Alternative, resulting in significant impacts. As discussed for the Proposed Project's construction impact assessment, implementation of Project Mitigation Measure NOI-1.1 which requires a Noise Control Plan, and Project Mitigation Measure NOI-1.2, which requires a noise barrier to be constructed at Parcel 2, would further reduce construction noise. However, it may not be possible at all times and at all locations to reduce noise to less-than-significant levels and as with the Proposed Project, the construction noise impacts from the Base Level Alternative could still be significant and unavoidable depending on the actual design of this alternative. (SU)

Traffic Noise Impacts. The Base Level Alternative would have the potential to increase noise on roadway segments in the vicinity of the Project site, although to a lesser extent than the Proposed Project because of the reduction in the number of vehicle trips. The largest Project-related traffic noise increase was estimated to be 0.2 decibel in the Project impact analysis. Because traffic noise increases under the Base Level Alternative would be lower than those under the Proposed Project, and because the Proposed Project would have less-than-significant traffic noise impacts, this alternative would also result in less-than-significant noise impacts on offsite sensitive receptors. (LTS)

Non-Traffic Operational Noise (Rooftop Mechanical Equipment and Emergency Generators). As with the Proposed Project, the Base Level Alternative would require various pieces of mechanical equipment on the roof, including air-condensing units behind a 16.5-foot-tall roof screen, as well as boilers, pumps, and a fan coil unit in a rooftop penthouse, and one emergency generator. Noise from equipment associated with the Base Level Alternative would be similar to, or slightly more than, noise from the Proposed Project's equipment. The number of pieces of equipment, as well as the types and sizes, would be similar; however, due to the shorter building height, the noise from the equipment could be more audible from ground level. As was the case with the Proposed Project, noise from mechanical equipment under this alternative may result in noise levels in excess of applicable thresholds. Implementation of ConnectMenlo EIR Mitigation Measure NOISE-1b would be required, which states that stationary noise sources, as well as landscaping and maintenance activities, shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code. In addition, Project Mitigation Measure NOI-1.2 would also be required for this alternative and would ensure noise from Project mechanical equipment would be in compliance with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Furthermore, Project

Mitigation Measure NOI-1.3 would also be required for this alternative and 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. A private open space roof deck is not included with this alternative because of the lower building height and the reduced parking requirement. Impacts for the Basel Level Alternative related to equipment noise during operations would be less than significant with mitigation, as was the case with the Proposed Project. (LTS/M)

Expose Persons to or Generate Excessive Ground-borne Vibration or Ground-borne Noise Levels. The operation of heavy construction equipment can generate localized ground-borne vibration and noise at buildings adjacent to a construction site. As is the case with the Proposed Project, the Base Level Alternative would not require pile driving. Vibration effects associated with the Base Level Alternative from construction on the main site would be similar to those resulting from Project construction because the general location of construction activity, as well as the required equipment, would be similar. Similar to the Proposed Project, vibration impacts related to damage would be considered less than significant; however vibration impacts related to annoyance would be significant and unavoidable, even after implementation of ConnectMenlo EIR Mitigation Measure NOISE-2a. (SU)

Cumulative Impacts. The Base Level Alternative would result in the same cumulative noise impacts as the Proposed Project or slightly less than the Proposed Project. Construction noise associated with the Base Level Alternative (as with the Proposed Project) could contribute to a cumulative construction noise impact should other projects also propose construction outside the exempt daytime hours or result in a 10 dB or greater increase over the ambient noise levels for an extended period of time. Because of the potential for overlapping construction, the ConnectMenlo EIR determined that construction noise from future projects in Menlo Park could result in construction-related noise that would exceed the City's noise limits. However, that impact would not be significant with implementation of ConnectMenlo EIR Mitigation Measure NOISE-1c. This, or a similar measure (as is outlined for the Proposed Project), would be required for all projects and help ensure that construction activity associated with future projects would comply with the Menlo Park Municipal Code and regulations pertaining to construction noise. As such, although construction noise from some individual projects (including the Proposed Project and the Base Level Alternative) may not be reduced to less-than-significant levels with implementation of this mitigation measure, the cumulative impact would be less than significant. Cumulative impacts from the Reduced Base Level Alternative would be less than significant with implementation of ConnectMenlo EIR Mitigation Measure NOISE-1c (or comparable) for other projects in the area, and implementation of Project Mitigation Measure NOI-1.1 and Project Mitigation Measure NOI-1.2 for the Reduced Base Level Alternative. (LTS/M)

As with the Proposed Project, cumulative impacts for the Base Level Alternative related to emergency generators noise would be less than significant because it is very unlikely that the testing of the emergency generator for the Base Level Alternative would occur concurrently with the testing of a generator at a nearby project. In addition, cumulative impacts for the Base Level Alternative related to vibration would be less than significant because vibration from multiple construction sites, even if they are close to one another, would not be expected to combine to raise the maximum peak particle velocity (i.e., a measurement of vibration). Traffic noise impacts would be less than cumulatively considerable, as is the case for the Proposed Project, because there would be fewer Project-related traffic trips under the Base Level Alternative. In addition, although it is possible that noise from mechanical equipment associated with the Base Level Alternative (as with the Proposed Project) could combine with operational noise from other nearby projects to elevate overall noise levels in the vicinity, implementation of ConnectMenlo EIR Mitigation Measure NOISE-1b would require compliance with Chapter 8.06, Noise, of the Menlo Park Municipal Code. In addition, Project Mitigation

Measure NOI-1.2 would also be required for this alternative. Compliance with the mitigation measures would ensure compliance with Chapter 8.06 of the Menlo Park Municipal Code and Chapter 8.52 of the City of East Palo Alto Municipal. The potential for the Base Level Alternative to contribute to a cumulative impact related to operational noise would less than cumulatively considerable with mitigation. (LTS/M)

Population and Housing

As with the Proposed Project, the Base Level Alternative would not result in direct impacts on population growth or the displacement of housing or people. (NI)

Indirect Population Growth. The Base Level Alternative would not include development of new housing units. However, there would be a population increase from new employment during operation of this alternative. Approximately 246 employees would be employed at the Project site as a result of the Base Level Alternative, or 82 fewer employees compared with the 328 anticipated under the Proposed Project. Approximately 143 employees currently work at the Project site; therefore, the Base Level Alternative would result in a net increase of approximately 103 employees compared to existing conditions.

The increase in employment under the Base Level Alternative, as with the Proposed Project, could result in a demand for new housing units and an indirect increase in the residential population. Assuming that up to 3.8 percent of employees would live in Menlo Park, with an average of 1.91 workers per household, the Base Level Alternative would result in approximately 2 net new housing units[9] in Menlo Park, compared with up to 6 units under the Proposed Project. With a persons-per-household (pph) ratio of 2.6,[10] this alternative could result in approximately 6 net new residents in Menlo Park compared with 16 net new people under the Proposed Project. Therefore, this alternative represents only a portion of the net population increase expected under the Proposed Project, resulting in a less-than-significant impact. The percentage of regional housing demand resulting from the Base Level Alternative would be relatively small in comparison with projected housing growth in the region. Accordingly, the impact of the Base Level Alternative on population and housing, as with the Proposed Project, would be less than significant. (LTS)

Cumulative Impacts. This alternative in combination with other projected growth in Menlo Park would increase population, employment, and housing demand. However, such growth is accounted for in the Association of Bay Area Governments (ABAG) projections for the region. Therefore, as with the Proposed Project, the contribution of the Base Level Alternative to impacts on population, employment, and housing demand would not be cumulatively considerable. (LTS)

Cultural and Tribal Cultural Resources

The Base Level Alternative would require similar demolition and construction activities as the Proposed Project. Therefore, the Base Level Alternative would have a similar potential to affect or disturb archaeological and tribal cultural resources. The same mitigation measures would be required as those for the Project to reduce potential impacts on archaeological resources and tribal cultural resources to

[9] Assuming an average of 1.91 employees per household (Keyser Marston Associates 2022) in San Mateo County and 3.8 percent of Menlo Park Labs Campus employees live and work in Menlo Park; 103 net new employees × 3.8 percent = 4 employees who also live in Menlo Park; 4 employees/1.91 employees per household = 2 households.

[10] 2 households × 2.6 persons per household = 6 new residents.

less than significant: Project Mitigation Measures CR-1.1 and CR-1.2, and ConnectMenlo Mitigation Measures CULT-2a, CULT-2b, and CULT-4. As with the Proposed Project, the Base Level Alternative would implement ConnectMenlo EIR Mitigation Measures CULT-2a and CULT-4. (LTS/M)

Cumulative Impacts. Construction activities on the Project site, along with other past, present and probable future development, could result in impacts on archaeological and tribal resources and human remains. However, under the Base Level Alternative, as with the Proposed Project, implementation of Project Mitigation Measures CR-1.1 and CR-1.2, and ConnectMenlo Mitigation Measures CULT-2a, CULT-2b, and CULT-4 would reduce the alternative's contribution to significant cumulative impacts on archaeological resources, human remains, and tribal cultural resources to less than cumulatively considerable after mitigation. (LTS/M)

Biological Resources

The Base Level Alternative would have slightly less construction impacts than the Proposed Project because the construction timeframe may be somewhat reduced. However, the same demolition, grading, and ground disturbing activities would be necessary. Tree removal under the Base Level Alternative would be the similar to the Project (39 trees), though the less intense development could result in the preservation of some of the existing trees. This alternative would also be developed on the same site as the Proposed Project and the potential for encountering sensitive species or habitat is the same. Implementation of the Base Level Alternative mitigation measures would similarly be required, including Mitigation Measures BIO-1.1 and BIO-1.2 to reduce potential impacts on a species identified as special-status by a local plan (Impact BIO-1) and to ensure to it would not affect wildlife movement and native wildlife nursery sites (Impact BIO-2). Likewise, operational impacts on biological resources would be the same or similar to the Project, although the lower building height might reduce some of the risk to flying birds. (LTS/M)

Cumulative Impacts. The Base Level Alternative, as with the Proposed Project, would be required to implement ConnectMenlo EIR Mitigation Measure BIO-1.1 to reduce cumulative impacts on biological resources to less than significant. (LTS/M)

Reduced Base Level Alternative

The potential impacts associated with the Reduced Base Level Alternative are described below. As discussed in Section 5.2, under the Reduced Base Level Alternative, Parcel 1 would be developed with life sciences uses, consistent with the existing zoning designation and at a reduced density compared with the Proposed Project. As described above, the Reduced Base Level Alternative would include a reduction in FAR (from 124 percent on Parcel 1 under the Proposed Project to 55 percent on Parcel 1). This would equate to an approximately 58,458 gsf life sciences building and approximately 146 employees. The maximum building height would be 35 feet. The site plan for the Reduced Base Level Alternative would be similar to that for the Proposed Project at Parcel 1, but at a reduced scale. Because the building footprints would be similar, all footprint-based impacts would be similar to those of the Proposed Project, as explained below. Because of the lower building height and smaller project, no rooftop private open space deck is assumed to be included with this project alternative. The reduced parking requirement would result in more opportunities for ground level private open space. However, under the Reduced Base Level Alternative, Parcel 2 would not be included as part of the Project site. The existing conditions on Parcel 2 would remain as-is, since no construction would occur, and the site would not provide surface parking for the proposed life science building. Construction of the waterline would be the same as under the Proposed Project.

Transportation

Under the Reduced Base Level Alternative, the site would be developed with life sciences uses, similar to development under the Proposed Project, although to a reduced extent. Due to a smaller building area, trip generation would be reduced. VMT per capita would not be reduced because a smaller project could result in fewer carpooling opportunities and more solo driving. Therefore, as explained in more detail below, the Reduced Base Level Alternative might not result in reduced impacts related to the various transportation topics including VMT. However the hazards relating to hazards due to a design feature or incompatible use; and emergency access would be reduced. However, parking and site access would be slightly different under the Reduced Base Level Alternative, as discussed further below.

Travel demand under the Reduced Base Level Alternative was estimated for the daily weekday a.m. and p.m. peak periods. The vehicle trip generation estimates for the proposed life sciences uses were calculated using the trip generation rates from the Institute of Transportation Engineers *Trip Generation Manual*, 11th edition. As with for the Proposed Project, the Research and Development Center (ITE Code 760) category was applied to the proposed life sciences use. Consistent with Menlo Park Transportation Impact Analysis guidelines, vehicle trip reductions were taken into account for the TDM program.[11] The resulting trip generation is provided in Table 5-3, along with a comparison between new vehicle trips generated under the Reduced Base Level Alternative and those of the Proposed Project.

Table 5-3. Reduced Base Level Alternative Trip Generation Compared to Proposed Project

Land Use	Size	Unit	Daily Trips	Total AM Peak-Hour Trips	Total PM Peak-Hour Trips
Reduced Base Level Alternative					
R&D[a]	58.5	ksf	664	62	59
Reductions					
20 Percent TDM Trip Reduction			(133)	(12)	(12)
Reduced Base Level Alternative Total			**531**	**50**	**47**
Proposed Project Trips with TDM Reductions	131.8	ksf	1,169	109	103
Difference (Reduced Base Level Alternative minus Proposed Project)			**(638)**	**(59)**	**(56)**
			55%	**54%**	**54%**
			Reduction	**Reduction**	**Reduction**

Source: Institute of Transportation Engineers. 2021. *Trip Generation Manual*, 11th edition; Hexagon Transportation Consultants, 2023.

Notes:

b. Land Use Code 760: Research and Development Center (average rates, expressed in trips per 1,000 gsf of floor area).

ksf = thousand square feet

As shown in Table 5-3, the Reduced Base Level Alternative would generate 638 fewer vehicle trips on a daily basis, with 59 fewer vehicle trips during the weekday a.m. peak hour and 56 fewer vehicle trips during the weekday p.m. peak hour. Because of the reduction in size, the Reduced Base Level Alternative

[11] Kimley Horn, Inc. January 26, 2021. *Transportation Demand Management (TDM) Memorandum for 1125 O'Brien Drive.*

would result in a 55, 54, and 54 percent reduction in the number of vehicle trips compared with the Proposed Project on a daily, weekday a.m. peak-hour, and weekday p.m. peak-hour basis, respectively. This reflects both fewer employees and fewer visitors and deliveries.

Conflict with Applicable Plans, Ordinances, or Policies. As part of the City's entitlement process, the Reduced Base Level Alternative would be required to comply with existing regulations, including City General Plan policies and zoning regulations. The Reduced Base Level Alternative would be reviewed in accordance with the Transportation Program standards and guidelines of the City Public Works Department; the department would provide oversight during the engineering review, ensuring that construction would be consistent with City specifications.

As with the Proposed Project, this alternative would provide adequate bicycle and pedestrian infrastructure and would represent an overall improvement to bicycle and pedestrian access and circulation along O'Brien Drive. The Reduced Base Level Alternative would meet zoning ordinance requirements for vehicle and bicycle parking and implement TDM measures in an effort to reduce the number of vehicle trips and encourage travel by modes other than automobile. Therefore, the Reduced Base Level Alternative, like the Project, would have a less than significant impact in terms of compliance with applicable plans, ordinances, and policies. (LTS)

Vehicle Miles Traveled. The per capita VMT impact under the Reduced Base Level Alternative would be similar to the Proposed Project. Estimated average daily VMT per capita for office/R&D uses within the Project site's Transportation Analysis Zone (TAZ) is 18.7, which is higher than the VMT threshold of significance of 13.6. VMT per capita would not be reduced under this alternative because a smaller project could result in fewer carpooling opportunities and more solo driving. A 27.3 percent reduction in VMT for this alternative would be needed to get below the VMT threshold of significance, similar to the Proposed Project.

The estimated per capita VMT does not account for the Proposed Project's TDM plan, which would also be implemented under the Reduced Base Level Alternative. Without TDM measures, the Proposed Project and Reduced Base Level Alternative may result in a substantial level of additional per capita VMT, and impacts would be significant. A TDM plan was prepared for the Proposed Project (and would also be required for the Reduced Base Level Alternative) by Kimley-Horn (see Appendix 3.1) to reduce both the number of trips and per capita VMT. With implementation of the TDM plan, per capita VMT generated by the Reduced Base Level Alternative would be reduced by 34 percent. Therefore, Mitigation Measure TRA-2.1, which requires implementation of the prescribed TDM plan, would be required to reduce per capita VMT generated by the Reduced Base Level Alternative to a less-than-significant level, similar to the Proposed Project. (LTS/M)

Hazards Due to a Design Feature or Incompatible Use. The Reduced Base Level Alternative would provide the same bicycle and pedestrian infrastructure at Parcel 1 as the Proposed Project, which would be adequate and an overall improvement compared to existing infrastructure, and would not create potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations. Eliminating development of Parcel 2 would eliminate the Project's increased vehicle activity on Casey Court and between the Casey Court site and Parcel 1 (e.g., by drivers looking for onsite parking). Access to and from the Project site would be from two driveways on Parcel 1, off of O'Brien Drive. Additionally, the Reduced Base Level Alternative, as with the Proposed Project, would require approval by the City's Public Works Department Transportation Program to ensure it is constructed according to City specifications. Hazards due to a design feature or incompatible use would be less than significant. (LTS)

Emergency Access. Similar to the Proposed Project, the Reduced Base Level Alternative would not include any characteristics (e.g., permanent road closures or roadway modifications) that would physically impair or otherwise interfere with emergency response or evacuation in the Project vicinity. The small increase in vehicle traffic from the Project site would not be expected to inhibit emergency access to the Project site or materially affect emergency vehicle response at the nearest fire station. Emergency access to the Project site would be provided by one of the driveways off O'Brien Drive. Emergency vehicles would likely travel through the Project site, then exit at the second driveway. In addition, emergency vehicles would likely have use of an onsite turnout and a fire staging area. Nonetheless, the proposed driveways on Parcel 1 under the Reduced Base Level Alternative would provide adequate access. Development of the Project site, and associated increases in vehicles, pedestrians, and bicycle travel would not substantially affect emergency vehicle response times or access to other buildings or land uses in the area or to hospitals. The Reduced Base Level Alternative would be designed and built according to the same standards as the Proposed Project to ensure that emergency access would not be impaired, resulting in less-than-significant impacts. (LTS)

Cumulative Impacts. Cumulative transportation impacts with the Reduced Base Level Alternative would be less than the Proposed Project. Future development would be required to comply with existing regulations, including current general plan policies and zoning regulations that are intended to minimize impacts related to transportation and circulation. Therefore, as with the Proposed Project, this alternative, in combination with cumulative projects, would have a less-than-significant impact with respect to conflicting with adopted policies, plans, or programs related to transportation. As with the Proposed Project, the Reduced Base Level Alternative 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, which is expected to reduce VMT per employee within the study area where the Project site is located. Consistent with the findings of the ConnectMenlo EIR, the Reduced Base Level Alternative (as with the Proposed Project), with Project Mitigation Measure TRA-2.1, would have a cumulative impact with respect to VMT that would be less than significant with mitigation. The Reduced Base Level Alternative would not result in an increase in hazards or inadequate emergency access; therefore, this alternative, in combination with cumulative projects, would result in a less-than-significant cumulative impact with respect to design features or incompatible uses. All cumulative impacts under the Reduced Base Level Alternative would be similar to, or slightly less than, those of the Proposed Project. (LTS/M)

Air Quality

Construction Criteria Air Pollutant Emissions. Similar to the Proposed Project, construction of the Reduced Base Level Alternative would require the use of heavy equipment and other mobile sources that would generate criteria pollutants. However, the Reduced Base Level Alternative would result in a shorter construction period due to a smaller building and shorter building heights at Parcel 1. In addition, the existing building at 1 Casey Court would not be demolished, and no surface parking would be constructed at Parcel 2. Therefore, the Reduced Base Level Alternative would require less construction equipment and fewer vehicles compared with the Proposed Project. As a result, the total construction emissions generated by the Reduced Base Level Alternative during construction would be less than those of the Proposed Project; however, maximum daily emissions for the Reduced Base Level Alternative could be similar to the Proposed Project, depending on the occurrence of overlap among construction phases. Daily construction emissions from operation of onsite equipment and on-

road vehicles under the Proposed Project would be below the BAAQMD's significance thresholds for ROG, nitrogen oxides (NO_X), and particulate matter (i.e., PM_{10} and $PM_{2.5}$); therefore, the Reduced Base Level Alternative would not exceed any BAAQMD threshold. BAAQMD's-recommended BMPs, along with ConnectMenlo EIR Mitigation Measure AQ-2b1, would be implemented to reduce PM_{10} and $PM_{2.5}$ from fugitive dust emissions. With implementation of the ConnectMenlo EIR mitigation measure, this impact from PM_{10} and $PM_{2.5}$ from fugitive dust emissions would be less than significant. (LTS/M)

Operational Criteria Air Pollutant Emissions. Operational emissions from both the Proposed Project and Reduced Base Level Alternative have the potential to create air quality impacts, primarily impacts associated with direct emissions from mobile sources. Motor vehicle traffic would include automobiles associated with daily employee trips and delivery trucks. The Reduced Base Level Alternative would result in fewer vehicle trips because of the reduction in floor area and the number of employees. The Reduced Base Level Alternative would generate 638 fewer vehicle trips on a daily basis, compared to the Proposed Project. The Reduced Base Level Alternative also would have an emergency generator requiring weekly testing.

Impacts from operational emissions were found to be below BAAQMD-recommended mass emission thresholds for the Proposed Project (see Table 3.2-7). Because the Reduced Base Level Alternative is a smaller project than the Proposed Project, the operational emissions from the Reduced Base Level Alternative are expected to be less than that of the Proposed Project. Therefore, similar to the Proposed Project, operation of the Reduced Base Level Alternative would not result in a cumulatively considerable net increase in any criteria air pollutant for which the San Francisco Bay Area Air Basin is designated as a nonattainment area with respect to the federal or state ambient air quality standards. Mitigation measures, including ConnectMenlo EIR Mitigation Measure AQ-2a, would not be required. Similar to the Proposed Project, this impact would be less than significant. (LTS)

Exposure of Existing Sensitive Receptors to Substantial Pollutant Concentrations during Construction. Diesel-fueled engines, which generate DPM, would be used during construction of the Reduced Base Level Alternative, similar to the Proposed Project. Multiple sensitive receptors are within 1,000 feet of the Project site, including residences and a school. The Proposed Project's construction would result in an increase in the cancer risk for residential receptors near the Proposed Project. The Reduced Base Level Alternative would result in a reduction in floor area and no construction on Parcel 2 compared with the Proposed Project; therefore, total construction activity would be less than the Proposed Project. The Reduced Base Level Alternative's cancer risk, hazard index, and PM2.5 concentration could be less than that of the Proposed Project because the construction period, and thus overall duration that sensitive receptors would be exposed to DPM, would be shorter. The Reduced Base Level Alternative's cancer risk, hazard index, and PM2.5 concentration would be below the applicable thresholds with implementation of Project Mitigation Measure AQ-2.1, which would reduce DPM and PM2.5 exposure. Similar to the Proposed Project, with implementation of Mitigation Measure AQ-2.1, the Reduced Base Level Alternative would not exceed BAAQMD thresholds for cancer risk, hazard index, or PM2.5 concentration. This impact would be less than significant with mitigation. (LTS/M)

Exposure of Existing Sensitive Receptors to Substantial Pollutant Concentrations from Project Operation. As with the Proposed Project, the Reduced Base Level Alternative is also assumed to include an emergency generator. Emissions resulting from the generator would be similar to the Proposed Project because the generator testing schedule of fifteen minutes per week would not be affected by the differences between the Reduced Base Level Alternative and the Proposed Project. Traffic generated by the Proposed Project would have the potential to create CO hot spots at nearby roadways and intersections. However, because the Reduced Base Level Alternative would generate less traffic than the Proposed Project, the CO emissions would also be lower. Regardless, for both the Proposed Project and

the Reduced Base Level Alternative, CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards, resulting in less-than-significant impacts. (LTS)

Cumulative Impacts. For the reasons described above, the Reduced Base Level Alternative in combination with other development in Menlo Park would not conflict with or obstruct implementation of the applicable air quality plan and would not result in a cumulatively significant impact. In addition, the Reduced Base Level Alternative in combination with other development in Menlo Park would be consistent with the Clean Air Plan. Similar to the Proposed Project, with implementation of ConnectMenlo EIR Mitigation Measure AQ-2b1, fugitive dust emissions would be reduced through implementation of BAAQMD BMPs. Additionally, with implementation of Project Mitigation Measure AQ-2.1, the Reduced Base Level Alternative would not exceed BAAQMD's cumulative thresholds for $PM_{2.5}$ concentrations, the hazard index, or cancer risks associated with construction and operation. Consequently, the cumulative impact regarding health risks and PM2.5 for sensitive receptors would be less than significant with mitigation. (LTS/M)

Greenhouse Gas Emissions

GHG Emissions during Project Construction. Construction of the Reduced Base Level Alternative would generate carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from the exhaust of mobile and stationary construction equipment, employees' vehicles, and haul trucks. However, the construction period would be shorter with this alternative because of the smaller building area and smaller Project site, and thus total GHG emissions would be reduced. BAAQMD's CEQA Guidelines do not recommend a GHG emission threshold for construction-related emissions; therefore, construction of the Reduced Base Level Alternative would not exceed thresholds. However, the guidelines recommend implementation of BMPs to help control or reduce GHG emissions. Therefore, the impact from construction of the Reduced Base Level Alternative would be less than the GHG construction impact from the Proposed Project and would thus be considered less than significant with implementation of Project Mitigation Measure GHG-1.1. (LTS/M)

GHG Emissions during Project Operation and Conflicts with Applicable GHG Emission Plans, Policies, and Regulations. Operation of the Reduced Base Level Alternative would generate fewer direct and indirect GHG emissions than the Proposed Project because of a decrease in building area and the number of employees. Therefore, this alternative would result in fewer vehicle trips (with a further reduction with the implementation of Project Mitigation Measure TRA-2.1), a lower level of electricity and natural gas consumption, and lower levels of waste and wastewater generation. Although the Reduced Base Level Alternative would still increase direct and indirect GHG emissions compared with existing conditions, there would be a reduction in the number of employees, which would have an appreciable effect on mobile GHG emissions compared to the Proposed Project.

Nonetheless, like the Proposed Project, the Reduced Base Level Alternative would include the use of natural gas and natural gas infrastructure for operation of the building, albeit the amount of natural gas used by the Reduced Base Level Alternative would be less than the Proposed Project due to the smaller size of the building. The Reduced Base Level Alternative, like the Proposed Project would not be consistent with the BAAQMD GHG thresholds for land-use projects, because of the installation of natural gas infrastructure. While the Reduced Base Level Alternative would purchase offset credits in compliance with the Zoning Ordinance like the Proposed Project, by perpetuating the use of fossil fuel infrastructure for the life of the Proposed Project, the Reduced Base Level Alternative (like the Proposed Project) would conflict with the statewide carbon neutrality goal for 2045. As such, the Reduced Base

Level Alternative would not avoid the significant impact that would occur for the Proposed Project, and the impact from operation of the Reduced Base Level Alternative related to GHG emissions and conflicts with applicable GHG emission plans would also be significant and unavoidable. (SU)

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 GHGs 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. (SU)

Noise

Exposure to Excessive Noise Levels in Excess of Local or Applicable Standards. The Reduced Base Level Alternative would expose persons to or generate noise levels in excess of standards established in the general plan, noise ordinance, or applicable standards, as is the case with the Proposed Project.

Project Site Construction. As with the Proposed Project, construction of the Reduced Base Level Alternative would require the use of heavy equipment that would temporarily increase noise levels at properties near the work sites. However, the construction impacts on noise and vibration for the Reduced Base Level Alternative would be less in magnitude compared to the impacts of the Proposed Project at Parcel 1 due to the proposed building size. In addition, this alternative would substantially reduce the severity of noise impacts to noise-sensitive land uses adjacent to Parcel 2. Construction of a smaller building and a surface parking lot at Parcel 1, and no building demolition and parking lot construction at Parcel 2, would result in significantly less construction. Noise from construction would occur at Parcel 1 only, while no construction activities would occur at Parcel 2, which is immediately adjacent to Wund3rSCHOOL/Open Mind School. The Wund3rSCHOOL/Open Mind School (school building and schoolyard) is 190 feet from Parcel 1, while the nearest residences are 310 feet away from Parcel 1. The Reduced Base Level Alternative would be expected to have fewer construction noise impacts on the Wund3rSCHOOL/Open Mind School (school building and school yard) and the nearest residences. Therefore, with the increased source-to-receptor distance, noise levels at a given time during construction would be less than the levels expected under the Proposed Project. Regardless, noise would still be generated during construction under the Reduced Base Level Alternative. As discussed for the Proposed Project's construction impact assessment, implementation of Modified ConnectMenlo Mitigation Measure NOISE-1c and Project Mitigation Measure NOI-1.1, which requires a Noise Control Plan, would reduce construction noise. Under the Proposed Project, even with implementation of the mitigation measures, construction noise impacts would be significant and unavoidable due to construction activities at Parcel 2 and the close proximity of the sensitive receptors at Wund3rSCHOOL/Open Mind School. Under the Reduced Base Level Alternative, implementation of these mitigation measures would reduce construction noise impacts, but it may not be enough of a reduction. During the 7:00 a.m. to 8:00 a.m. hour, the 60 dBA threshold and the 10 dB ambient increase threshold would be applicable; construction of the Reduced Base Level Alternative may exceed one or both levels at the Wund3rSCHOOL/Open Mind School. Like the Proposed Project, this impact is significant and unavoidable. (SU)

Traffic Noise Impacts. The Reduced Base Level Alternative would have the potential to slightly increase noise on roadway segments in the vicinity of the Project site, although to a lesser extent than the Proposed Project because of the reduction in the number of vehicle trips. The largest Project-related traffic noise increase was estimated to be 0.2 decibel in the Project analysis. Because traffic noise increases under the Reduced Base Level Alternative would be lower than those under the Proposed Project, and because the Proposed Project would have less-than-significant traffic noise impacts, this alternative would also result in less-than-significant noise impacts on offsite sensitive receptors. (LTS)

Non-Traffic Operational Noise (Rooftop Mechanical Equipment and Emergency Generators). As with the Proposed Project, the Reduced Base Level Alternative would require various pieces of mechanical equipment on the roof, including air-condensing units behind a 16.5-foot-tall roof screen, as well as boilers, pumps, and a fan coil unit in a rooftop penthouse, and one emergency generator. Noise from equipment associated with the Reduced Base Level Alternative would be similar to, or slightly less than, noise from the Proposed Project's equipment. The number of pieces of equipment, as well as the types and sizes, would be similar; however, due to the shorter building height, the noise from the equipment could be more audible from ground level. As was the case with the Proposed Project, noise from mechanical equipment under this alternative may result in noise levels in excess of applicable thresholds. Implementation of ConnectMenlo EIR Mitigation Measure NOISE-1b would be required, which states that stationary noise sources, as well as landscaping and maintenance activities, shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code. In addition, Project Mitigation Measure NOI-1.2 would also be required for this alternative and would ensure noise from Project mechanical equipment would be in compliance with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Furthermore, Project Mitigation Measure NOI-1.3 would also be required for this alternative and 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. No private open space roof deck is included with this alternative because of the lower building height and the reduced parking requirement. Impacts for the Reduced Base Level Alternative related to equipment noise during operations would be less than significant with mitigation, as was the case with the Proposed Project. (LTS/M)

Expose Persons to or Generate Excessive Ground-borne Vibration or Ground-borne Noise Levels. The operation of heavy construction equipment can generate localized ground-borne vibration and noise at buildings adjacent to a construction site. As is the case with the Proposed Project, the Reduced Base Level Alternative would not require pile driving. Vibration effects associated with the Reduced Base Level Alternative from construction on Parcel 1 would be less than those resulting from Project construction due to building size, less construction activity, and increased distance. During Project construction on Parcel 1, vibration-generating construction equipment may be operated approximately 190 feet from the nearby schoolyard and school building, approximately 15 feet from the nearby commercial and industrial buildings, and approximately 310 feet from the nearest residences. Under the Proposed Project, vibration impacts from construction at Parcel 1 on the nearby properties would be well below the applicable damage criterion. Therefore, vibration-related damage from Proposed Project construction at Parcel 1 on nearby residences, the school, and commercial/industrial buildings would be less than significant. Since the Reduced Base Level Alternative would involve less construction than the Proposed Project, potential for vibration impacts from this alternative would be further reduced. Because no construction or demolition would occur at Parcel 2 under the Reduced Base Level Alternative, the significant impacts related to vibration damage under the Proposed Project would not occur.

Construction of Parcel 1 under the Proposed Project would not result in vibration levels that could exceed applicable vibration-related annoyance thresholds at nearby residences or at Wund3rSCHOOL/Open Mind School. However, Parcel 1 construction could exceed applicable vibration-related annoyance thresholds at the nearby commercial land use, resulting in the same less-than-significant impacts. Construction vibration would still occur at Parcel 1 under the Reduced Base Level Alternative. However, due to the reduction in building size and a reduction in construction activities, implementation of ConnectMenlo EIR Mitigation Measure NOISE-2a is expected to reduce impacts to less than significant. The Proposed Project would result in a significant annoyance-related vibration impact at Wund3rSCHOOL/Open Mind School because construction at Parcel 2 would occur at a distance of

approximately 80 feet from the school building. Because the Reduced Base Level Alternative would not include construction at Parcel 2, the distance between the school building and construction equipment would be even greater (i.e. approximately 200 feet). However, because construction of the Reduced Base Level Alternative could occur at a distance of 15 feet from the nearest commercial and industrial buildings, the criterion for a workshop (PPV of 0.126 in/sec) from ConnectMenlo EIR Mitigation Measure NOISE-2a would still be exceeded. Note that once construction of the Project (or an alternative to the Project) begins, it is anticipated that the Project Sponsor would take control of the building at 1185 O'Brien; in that case, the mitigation measure would not be needed. However, because this has not yet occurred, annoyance-related vibration impacts inside a nearby commercial building (1185 O'Brien Drive) from Parcel 1 construction would be considered significant under this alternative, as was the case with the Proposed Project. With implementation of mitigation, these significant impacts would be less than the Proposed Project's significant impact due to the smaller building size but still significant and unavoidable. (SU)

Cumulative Impacts. Construction noise associated with the Reduced Base Level Alternative (as with the Proposed Project) could contribute to a cumulative construction noise impact should other projects also propose construction outside the exempt daytime hours or result in a 10 dB or greater increase over the ambient noise levels for an extended period of time. Because of the potential for overlapping construction, the ConnectMenlo EIR determined that construction noise from future projects in Menlo Park could result in construction-related noise that would exceed the City's noise limits, but that impact would not be significant with implementation of ConnectMenlo EIR Mitigation Measure NOISE-1c, which would be required for all projects and help ensure that construction activity associated with future projects would comply with the Menlo Park Municipal Code and regulations pertaining to construction noise. As such, although construction noise from some individual projects (including the Proposed Project) may not be reduced to less-than-significant levels with implementation of this mitigation measure, the cumulative impact would be less than significant. Cumulative impacts from the Reduced Base Level Alternative would be less than significant with implementation of ConnectMenlo EIR Mitigation Measure NOISE-1c for other projects in the area, and implementation of Project Mitigation Measure NOI-1.1 and Project Mitigation Measure NOI-1.2 for the Reduced Base Level Alternative. (LTS/M)

The potential for the Reduced Base Level Alternative to contribute to a cumulative impact related to operational noise would be less than cumulatively considerable with mitigation. As with the Proposed Project, cumulative impacts for the Reduced Base Level Alternative related to emergency generators noise would be less than significant because it is very unlikely that the testing of the emergency generator for the Reduced Base Level Alternative would occur concurrently with the testing of a generator at a nearby project. In addition, cumulative impacts for the Reduced Base Level Alternative related to vibration would be less than significant because vibration from multiple construction sites, even if they are close to one another, would not be expected to combine to raise the maximum peak particle velocity (a measurement of vibration). Traffic noise impacts would be less than cumulatively considerable, as is the case for the Proposed Project, because there would be fewer Project-related traffic trips under the Reduced Base Level Alternative. In addition, although it is possible that noise from mechanical equipment associated with the Reduced Base Level Alternative (as with the Proposed Project) could combine with operational noise from other nearby projects to elevate overall noise levels in the vicinity, implementation of ConnectMenlo EIR Mitigation Measure NOISE-1b would require compliance with Chapter 8.06, Noise, of the Menlo Park Municipal Code. In addition, Project Mitigation Measure NOI-1.2 would also be required for this alternative. Compliance with the mitigation measures would ensure compliance with Chapter 8.06 of the Menlo Park Municipal Code and Chapter 8.52 of the City of East Palo Alto Municipal. (LTS/M)

Population and Housing

As with the Proposed Project, the Reduced Base Level Alternative would not result in direct impacts on population growth or the displacement of housing or people. (NI)

Indirect Population Growth. The Reduced Base Level Alternative would not include development of new housing units. Approximately 146 new employees would be employed at the Project site as a result of the Reduced Base Level Alternative, or 182 fewer employees compared with the 328 anticipated under the Proposed Project. Approximately 91 employees are currently located at Parcel 1; therefore, the Reduced Base Level Alternative would result in a net increase of approximately 55 employees at Parcel 1. The percentage of regional housing demand resulting from the Reduced Base Level Alternative would be minor in comparison with projected housing growth in the region. Accordingly, the impact of the Reduced Base Level Alternative on population and housing would be less than the Proposed Project, resulting in less-than-significant impacts. (LTS)

Cumulative Impacts. This alternative in combination with other projected growth in Menlo Park would increase population, employment, and housing demand. However, such growth is accounted for in the Association of Bay Area Governments (ABAG) projections for the region. Therefore, as with the Proposed Project, the contribution of the Reduced Base Level Alternative to impacts on population, employment, and housing demand would not be cumulatively considerable. (LTS)

Cultural and Tribal Cultural Resources

The Reduced Base Level Alternative would require less demolition and construction activities than the Proposed Project. While ground-disturbing activities would be similar to the Proposed Project at Parcel 1, no ground-disturbing activities would occur on Parcel 2. Therefore, the Reduced Base Level Alternative would have less potential to affect or disturb archaeological and tribal cultural resources than the Proposed Project. Regardless, since ground disturbance would occur at Parcel 1, the same mitigation measures would be required as those for the Proposed Project to reduce potential impacts on archaeological resources and tribal cultural resources to less than significant: Project Mitigation Measures CR-1.1 and CR-1.2, and ConnectMenlo Mitigation Measures CULT-2a, CULT-2b, and CULT-4. As with the Proposed Project, the Reduced Base Level Alternative would implement these mitigation measures as well, resulting in less-than-significant impacts. (LTS/M)

Cumulative Impacts. Construction activities on the Project site, along with other past, present and probable future development, could result in impacts on archaeological and tribal resources and human remains. However, under the Reduced Base Level Alternative, as with the Proposed Project, implementation of Project Mitigation Measures CR-1.1 and CR-1.2, and ConnectMenlo Mitigation Measures CULT-2a, CULT-2b, and CULT-4 would reduce the alternative's contribution to significant cumulative impacts on archaeological resources, human remains, and tribal cultural resources to less than cumulatively considerable after mitigation. (LTS/M)

Biological Resources

The Reduced Base Level Alternative would have less construction impacts than the Proposed Project because demolition, grading, and ground disturbing activities would be reduced. No construction would occur at Parcel 2; the existing trees at this site would remain. The Reduced Base Level Alternative would require the removal of 24 trees on Parcel 1, compared to a total of 39 trees on both parcels under the Proposed Project. No impacts to biological resources would occur on Parcel 2. Since this alternative would be developed on the same site (Parcel 1) as the Proposed Project, the potential for encountering sensitive species or habitat on Parcel 1 is the same. Implementation of the Reduced Base Level

Alternative mitigation measures would similarly be required, including: Mitigation Measures BIO-1.1 and BIO-1.2 to reduce potential impacts on a species identified as special-status by a local plan and to ensure to it would not affect wildlife movement and native wildlife nursery sites. Although impacts from the Reduced Base Level Alternative on biological resources would be reduced compared to the Proposed Project (e.g. no development on Parcel 2, reduced risk to birds from lower a building), impacts would be less than significant with mitigation. (LTS/M)

Cumulative Impacts. The Reduced Base Level Alternative, as with the Proposed Project, would be required to implement ConnectMenlo EIR Mitigation Measure BIO-1.1 to reduce cumulative impacts on biological resources to less than significant. (LTS/M)

5.6 Comparison of Impacts

CEQA Guidelines Section 15126.6 requires a comparison of the alternatives to the Proposed Project (presented above) and suggests that a matrix be used to summarize the comparison. Table 5-4 below, compares impacts of the Proposed Project to those of the alternatives.

Table 5-4. Comparison of Impacts among Project Alternatives

Environmental Issue	Project	No Project Alternative	Base Level Alternative	Reduced Base Level Alternative
Transportation				
Conflict with applicable plans	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Exceed the applicable VMT threshold of significance	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Increase hazards due to design feature or incompatible uses	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Result in inadequate emergency access	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Cumulative Impacts	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Air Quality				
Construction Criteria Air Pollutant Emissions	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Operational Criteria Air Pollutant Emissions	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Exposure of Existing Sensitive Receptors to Substantial Pollutant Concentrations	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Cumulative Impacts	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Greenhouse Gas Emissions				
GHG Emissions during Project Construction	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
GHG Emissions during Project Operation and Conflicts with Applicable GHG Emission Plans, Policies, and Regulations	SU	NI (Less)	SU (Similar)	SU (Similar)
Cumulative Impacts	SU	NI (Less)	SU (Similar)	SU (Similar)

Environmental Issue	Project	No Project Alternative	Base Level Alternative	Reduced Base Level Alternative
Noise				
Construction noise levels in excess of, standards established in a local general plan or noise ordinance or applicable standards of other agencies	SU	NI (Less)	SU (Similar)	SU (Less)
Operational noise levels in excess of, standards established in a local general plan or noise ordinance or applicable standards of other agencies	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Generate excessive ground-borne vibration or noise levels	SU	NI (Less)	SU (Similar)	SU (Less)
Cumulative Impacts	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Population and Housing				
Indirect Population Growth	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Cumulative Impacts	LTS	NI (Less)	LTS (Similar)	LTS (Less)
Cultural Resources				
Archaeological Resources	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Tribal Cultural Resources	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Cumulative Impacts	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Biological Resources				
Candidate, Sensitive, or Special-Status Species	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Movement of Any Native Resident or Migratory Fish or Wildlife Species	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)
Cumulative Impacts	LTS/M	NI (Less)	LTS/M (Similar)	LTS/M (Less)

NI = No Impact; LTS = Less-than-Significant; LTS/M = Less than Significant with Mitigation; SU = Significant Unavoidable

5.7 Environmentally Superior Alternative

Section 21002 of the CEQA Guidelines requires lead agencies to adopt a feasible environmentally superior alternative in order to substantially lessen or avoid otherwise significant adverse environmental effects, unless specific social or other conditions make such mitigation measures or alternatives infeasible. CEQA also requires that an environmentally superior alternative be identified among the alternatives analyzed. Selection of an environmentally superior alternative necessitates weighing of numerous environmental considerations.

On the basis of comparing the extent to which the alternatives reduce or avoid the significant impacts of the Proposed Project, the No Project Alternative would be the environmentally superior alternative. Because no development would occur at the Project site, there would be no construction or operational impacts. However, per Section 15126.6(e)(2), the No Project Alternative cannot be selected as the environmentally superior alternative.

As explained above, the Base Level Alternative would result in a reduction in building area and an associated reduction in the number of employees and vehicle trips. Because of the smaller building space and reduced building heights, despite the large building footprint, all construction impacts would be the same as or less than those of the Proposed Project, and footprint-based impacts would be similar. The Base Level Alternative would also result in a net decrease in the number of vehicle trips during the a.m. peak hour (27 trips) and during the p.m. peak hour (25 trips). The Base Level Alternative would also result in approximately 103 fewer employees compared with the Proposed Project. Therefore, the Base Level Alternative would result in fewer construction and operational impacts related to transportation, air quality, GHG, and noise. However, because demolition and construction on Parcel 2 would still occur at the same level as under the Proposed Project, all construction impacts at Parcel 2, including those on Wund3rSCHOOL/Open Mind School, would still occur. The Base Level Alternative would result in the same impact conclusions (i.e., less than significant, less than significant with mitigation, significant and unavoidable) as the Proposed Project.

The Reduced Base Level Alternative would result in a further reduction in building area compared to the Proposed Project and the Base Level Alternative, and an associated reduction in the number of employees and vehicle trips. Because of the smaller buildings and reduced building heights, all construction impacts would be less than those of the Proposed Project, and footprint-based impacts would be similar. Most notably, no demolition or construction would occur at Parcel 2, reducing noise and vibration impacts on Wund3rSCHOOL/Open Mind School.

Under the Proposed Project, even with implementation of the mitigation measures, construction noise impacts would be significant and unavoidable due to construction activities at Parcel 2 and the close proximity of the sensitive receptors at Wund3rSCHOOL/Open Mind School. Under the Reduced Base Level Alternative, implementation of Project Mitigation Measure NOI-1.1 would reduce construction noise impacts, but it may not be enough of a reduction for impacts to be less than significant. During the 7:00 a.m. to 8:00 a.m. hour, the 60 dBA threshold and the 10 dB ambient increase threshold would both be applicable, and construction from the Reduced Base Level Alternative may exceed this level at the Wund3rSCHOOL/Open Mind School. Like the Proposed Project, this impact is significant and unavoidable but to a lesser extent than the impact of the Proposed Project. In addition, construction on Parcel 1 only under the Reduced Base Level Alternative would result in significant vibration impacts on the nearby commercial building, even with implementation of ConnectMenlo EIR Mitigation Measure NOISE-2a. This would result in a significant and unavoidable vibration annoyance impact but to a lesser extent than the impact of the Proposed Project. Note that annoyance-related vibration impacts at Wund3rSCHOOL/Open Mind School would be less than significant, as is the case with the Proposed Project.

In addition to a reduction of construction impacts, operational impacts of the Reduced Base Level Alternative would also be reduced. The Reduced Base Level Alternative would result in a net decrease in the number of vehicle trips during the a.m. peak hour (50 trips) and during the p.m. peak hour (47 trips). The Reduced Base Level Alternative would also result in approximately 188 fewer employees compared with the Proposed Project. Therefore, this would result in fewer operational impacts related to transportation, air quality, GHG, and noise.

As discussed above, the Base Level Alternative would have similar impacts, or slightly reduced impacts, compared to the Proposed Project. Regardless, the Base Level Alternative would result in the same impact conclusions (i.e., less than significant, less than significant with mitigation, significant and unavoidable) as the Proposed Project. Similarly ,the Reduced Base Level Alternative

would result in the same impact conclusions as the Proposed Project but would reduce most impacts compared to the Proposed Project and the Base Level Alternative. The Reduced Base Level Alternative would result in a further reduction in building area compared to the Proposed Project and the Base Level Alternative and an associated reduction in the number of employees, vehicle trips, and construction impacts. Therefore, the Reduced Base Level Alternative is considered the environmentally superior alternative.

Chapter 6
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