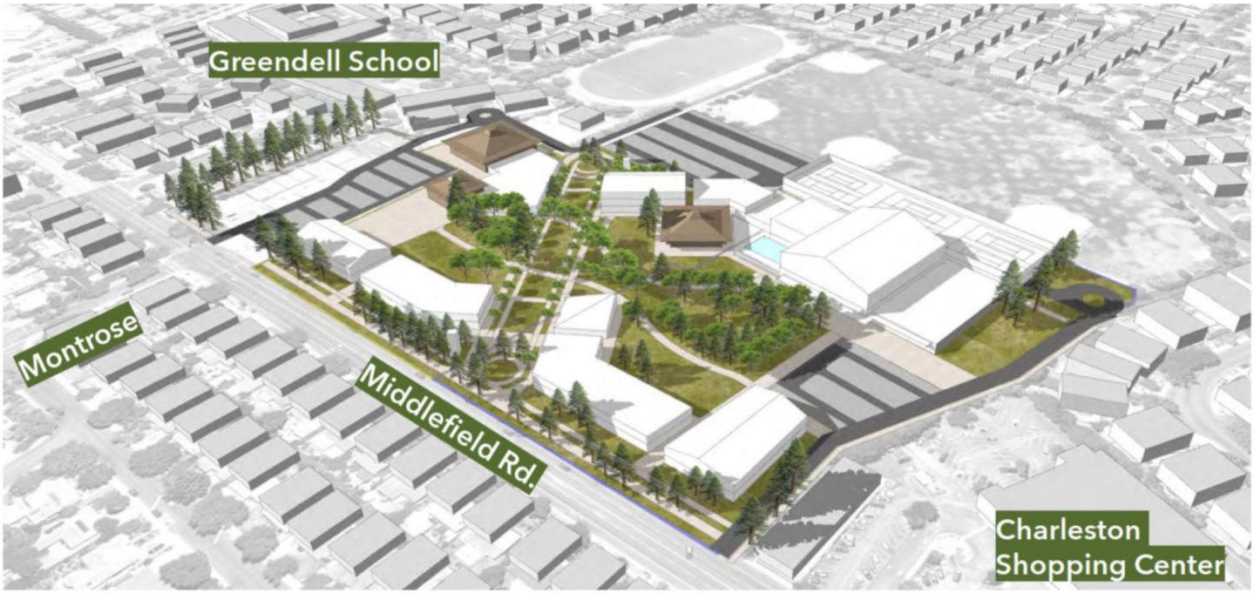
DRAFT INITIAL STUDY ♦ MITIGATED NEGATIVE DECLARATION



Cubberley Community Center Conceptual Master Plan

PREPARED BY:

City of Palo Alto
Community Services Department
1305 Middlefield Road
Palo Alto, California 94301
Contact: Kristen O'Kane, Community Services Director

PREPARED WITH THE ASSISTANCE OF:

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REPORT DATE:

February 2026

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INITIAL STUDY

1. PROJECT TITLE

Cubberley Community Center Conceptual Master Plan

2. LEAD AGENCY

City of Palo Alto
Community Services Department
1305 Middlefield Road
Palo Alto, California 94301

3. CONTACT PERSON AND PHONE NUMBER

Kristen O'Kane
Community Services Director
(650) 463-4908

4. PROJECT LOCATION

The Cubberley Conceptual Master Plan Area ("Plan Area") encompasses approximately 15 acres at the southeastern border of the City of Palo Alto in Santa Clara County. The Plan Area includes all of Assessor Parcel Number (APN) 147-08-052 and a portion of APN 147-08-053. The address for the Plan Area, the existing Cubberley Community Center, is 4000 Middlefield Road.

The Plan Area is bounded by Middlefield Road to the north, residential uses and the Greendell School to the east, the Cubberley Center play fields to the south, and the Charleston shopping center to the west. Figure 1 shows the regional location of the Plan Area and Figure 2 shows an aerial view of the Plan Area and its neighborhood context.

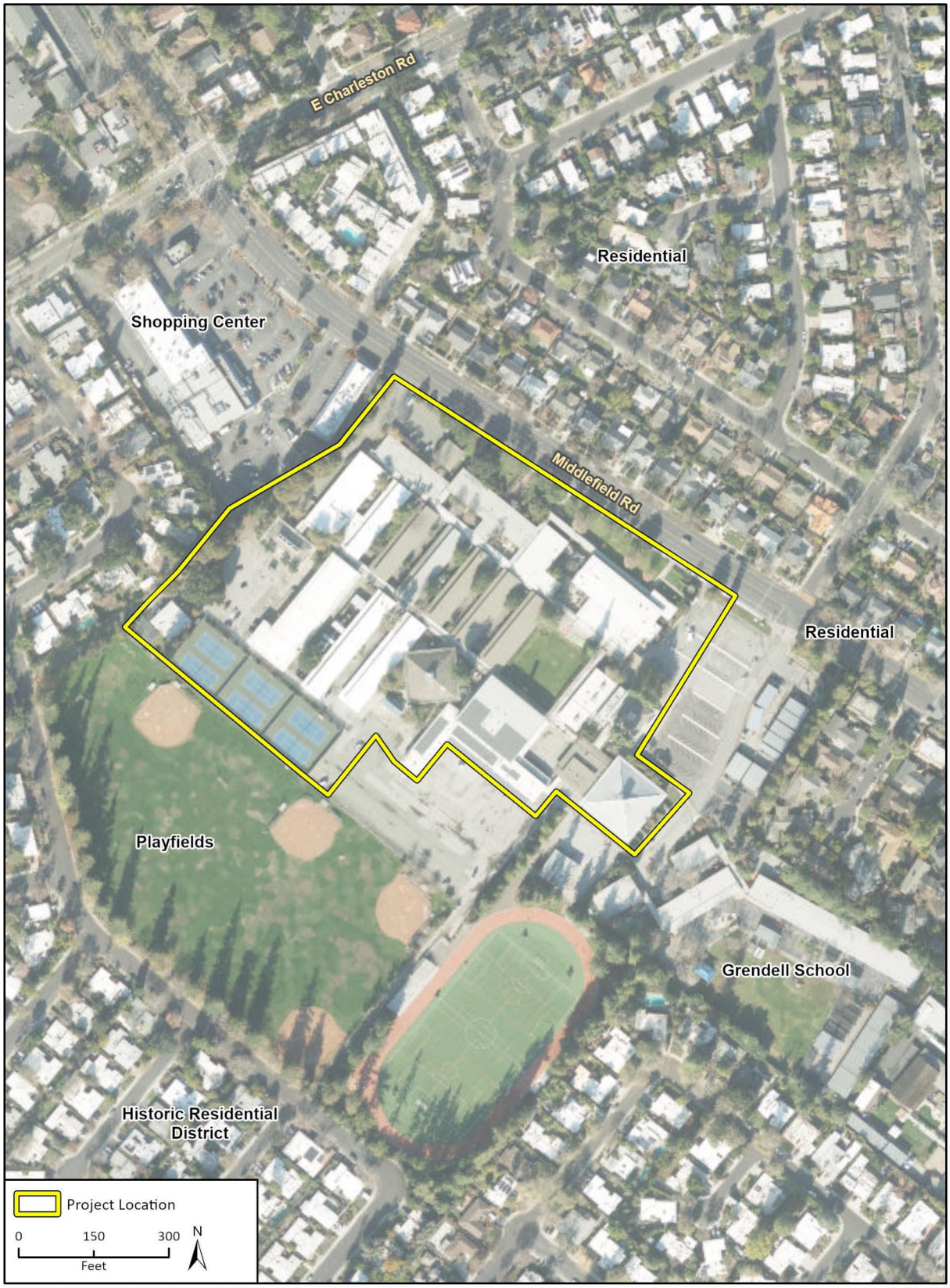
5. COMPREHENSIVE PLAN DESIGNATION

The Plan Area has a Comprehensive Plan land use designation of School District Land. The City of Palo Alto's Comprehensive Plan 2030 (Comprehensive Plan) Land Use and Community Design Element defines School District Land as "Properties owned or leased by public school districts and used for educational, recreational, or other non-commercial, non-industrial purposes." In this land use category, the Floor Area Ratio (FAR) may not exceed 1.0 (City of Palo Alto 2017a).

Figure 1 Regional Setting



Figure 2 Project Location



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Fig 2 Project Location

6. ZONING

The Plan Area is zoned Public Facilities (PF) with a Site and Design Review Combining District (D). The Palo Alto Municipal Code (PAMC) defines the PF district as one "designed to accommodate governmental, public utility, educational, and community service or recreational facilities" (PAMC Section 18.28.010), and the "D" combining district "is intended to provide a process for review and approval of development in environmentally and ecologically sensitive areas, including established community areas which may be sensitive to negative aesthetic factors, excessive noise, increased traffic or other disruptions, in order to assure that use and development will be harmonious with other uses in the general vicinity, will be compatible with environmental and ecological objectives, and will be in accord with the Palo Alto Comprehensive Plan" (PAMC Section 18.30(G).010).

7. SURROUNDING LAND USES AND SETTING

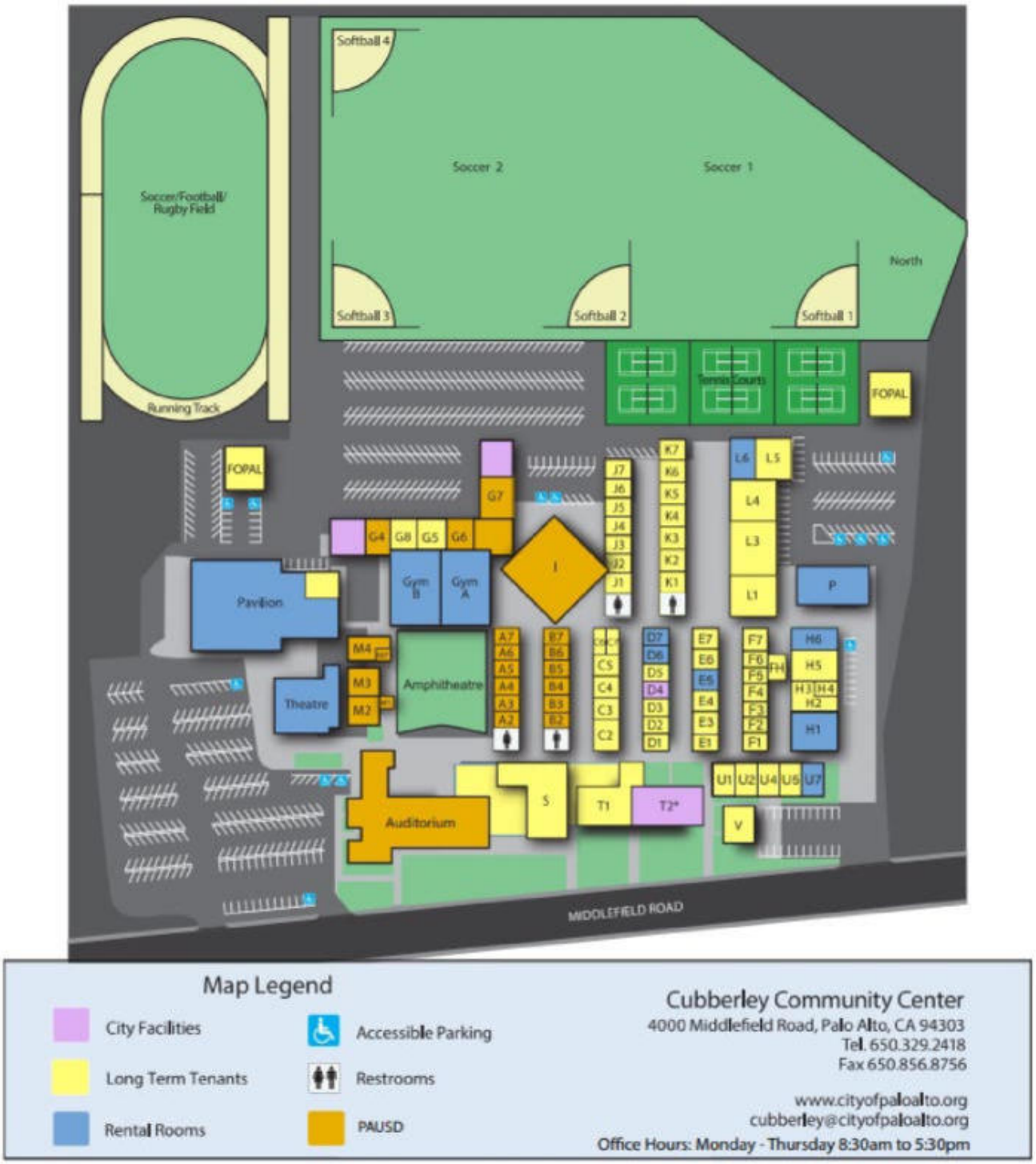
NEIGHBORHOOD SETTING

The Plan Area is located towards the southeastern edge of the City of Palo Alto near its border with the City of Mountain View. The surrounding neighborhood is characterized primarily by residential uses with some commercial uses along major roadways and several institutional uses mixed throughout the neighborhoods. South of the Plan Area are fields used for soccer, softball, and football. The field on the southeastern corner of the site includes a running track and the field inside the running track is comprised of synthetic turf. The other fields are grass. South of the play fields is a single-family residential neighborhood, Greenmeadow, which is a subdivision designed by Joseph Eichler and is a historic district listed on the National Register of Historic Places. Another single-family residential neighborhood is located north of the Plan Area across Middlefield Road. Charleston Shopping Center, which includes a large parking lot with access from Middlefield Road and several commercial tenants, abuts the northwest corner of the Plan Area. East of the Plan Area is the Greendell School operated by the Palo Alto Unified School District (PAUSD). Additional commercial uses, including retail and auto-related services, continue further west along Middlefield Road. Public community spaces and institutional land uses are located further west on Middlefield Road, including places of worship, Mitchell Park, which is a City park, and schools operated by PAUSD.

PLAN AREA SETTING

The Cubberley Community Center site comprises approximately 35 acres in total. The City of Palo Alto currently owns eight acres, while the remaining 27 acres are owned by the Palo Alto Unified School District (PAUSD). Figure 3 shows the current buildings and uses on the site.

Figure 3 Cubberley Community Center Map



The buildings in the Plan Area were constructed in the 1950s and 60s for the Cubberley High School. The high school was closed in 1979, and the buildings have since been used for the Cubberley Community Center. The existing buildings include 21 permanent educational buildings (all one-story except for one two-story building) and two portable buildings These buildings center on the property's original Mid-Century Modern-style buildings, which are arrayed in a finger plan. A series of classroom wings and other instructional buildings extend south from the central administrative and shared-use facilities. Buildings added after the school's original development are generally located along the periphery of the building complex. Most buildings are adjoined by a network of covered exterior walkways.

Total, the buildings in the Plan Area comprise approximately 184,000 square feet and range from one to two stories. The facilities are used for uses that vary widely, including community organizations such as the Friends of the Palo Alto Library, various education and learning programs, fitness and exercise facilities and classes, and visual and performing arts venues. The southern edge of the Plan Area includes six tennis courts. The hours of operation vary by use but generally are between the hours of 8:00 a.m. and 10:00 p.m. seven days a week.

The Plan Area is relatively flat in topography and includes many trees, including trees that are protected by City ordinance. Those trees are primarily located at the southern and northern edges of the site, and near the center of the Cubberley Community Center buildings.

8. DESCRIPTION OF PROJECT

The proposed project involves adoption of the Cubberley Conceptual Master Plan ("Master Plan"). The Master Plan would provide a programmatic framework for the Plan Area that envisions a combination of renovation, demolition, and new construction to support a range of community-oriented spaces and amenities for the Cubberley Community Center.

The City currently owns eight acres and the City and PAUSD signed a Memorandum of Understanding outlining the City's intent to purchase an additional seven acres from PAUSD, contingent on the passage of a voter-approved tax or bond measure in November 2026. These areas are shown on Figure 4. The Master Plan would cover the 15-acre area that would be owned by the City of Palo Alto.

Implementation of the Master Plan is expected to occur over time in phases and will be dependent on available funding.

Overall, the Master Plan includes approximately 284,000 square feet of usable indoor space, approximately 275,000 square feet of outdoor space, and 851 parking spaces. Figure 5 shows a conceptual site plan.

The City is also considering amending the 2030 Comprehensive Plan to change the Plan Area land use designation from School District Land to Major Institution/Special Facilities as part of plan implementation.

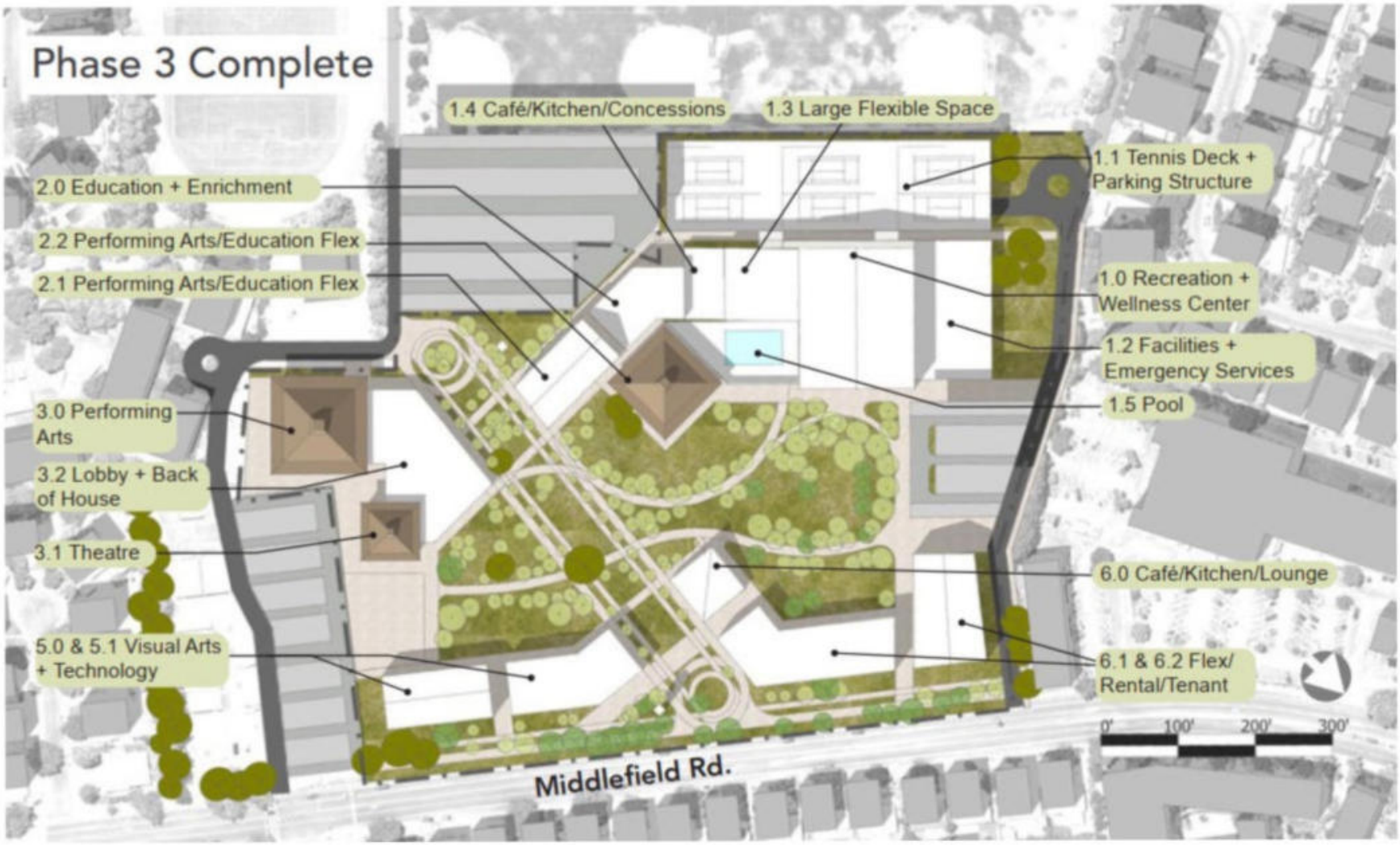
Figure 4 Portion of Plan Area Owned and to be Purchased by the City of Palo Alto



Figure 1.1 Property Boundaries

Source: City of Palo Alto 2025

Figure 5 Conceptual Site Plan



Source: City of Palo Alto 2025

SITE DEVELOPMENT

The Master Plan anticipates a comprehensive, phased redevelopment of the site to support a mix of community uses, including recreation and wellness facilities, performing arts venues, visual arts spaces, education and community services space, and indoor and outdoor gathering areas. Outdoor uses would include plazas, outdoor event space, playgrounds, gardens, tennis courts, a pool, and an amphitheater at the center of the site. Indoor uses would include classrooms, a café, a commercial kitchen, recreation areas, visual arts spaces including makerspaces and galleries, and performing arts spaces including theaters, studios, and rehearsal halls.

The Master Plan would be phased over time to manage costs and sequence renovation, demolition, and new construction while limiting disruption to existing services in the Project Area. Phase 1 delivers key recreational facilities (Recreation Wellness Center), a Performing Arts Center, and surface parking, and includes interim renovations to buildings so facilities remain functional until additional funding is secured for future phases. Phase 2 constructs the visual arts and technology buildings; and Phase 3 completes the remaining community service facilities.

The site layout considers appropriate program adjacencies by grouping similar activities together, balances building space with outdoor space and site circulation, and accommodates phasing of construction over time. A wide, diagonal promenade connects Middlefield Road to the southern corner of the Plan Area, and bicycle and pedestrian pathways connect Charleston Shopping Center through the Plan Area to the Performing Arts area. Vehicle access and parking are situated on the periphery of the Plan Area. Bicycles and pedestrians can travel through the site on various pathways.

At full buildout following completion of Phase 3, the Master Plan anticipates three buildings would remain and be renovated (the Pavilion, the Theater, and Building I) totaling approximately 35,000 square feet, 19 buildings would be demolished totaling approximately 147,000 square feet, and new buildings would be constructed totaling approximately 249,000 square feet.

Figure 6 shows buildings to be demolished and buildings to be retained and renovated. Table 1 shows a summary of renovation, demolition, and construction and total development.

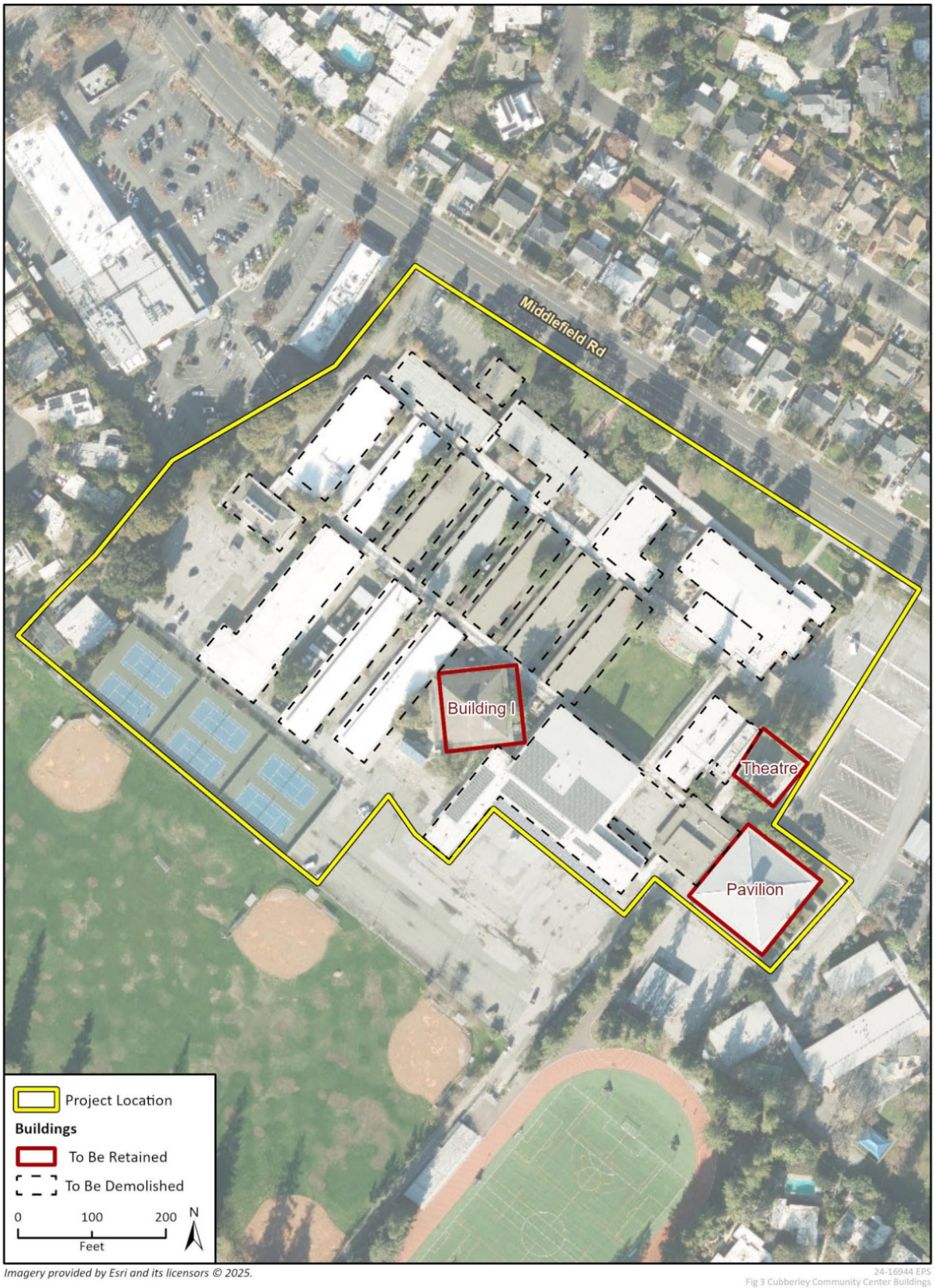
Table 1 Total Renovation, Demolition, and New Construction for all Phases

Proposed Renovated Buildings to Remain	Proposed Demolition	Proposed New Construction	Total Development at Completion (Renovated Buildings + New Construction)	Total Net new development (Total Development at Completion – Existing Development
35,000 sf	147,000 sf	249,000 sf	284,000 sf	100,000 sf

sf = square feet

A summary of proposed programming and uses is included in Table 2.

Figure 6 Buildings to Be Demolished and Retained



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Fig 3 Cubberley Community Center Buildings

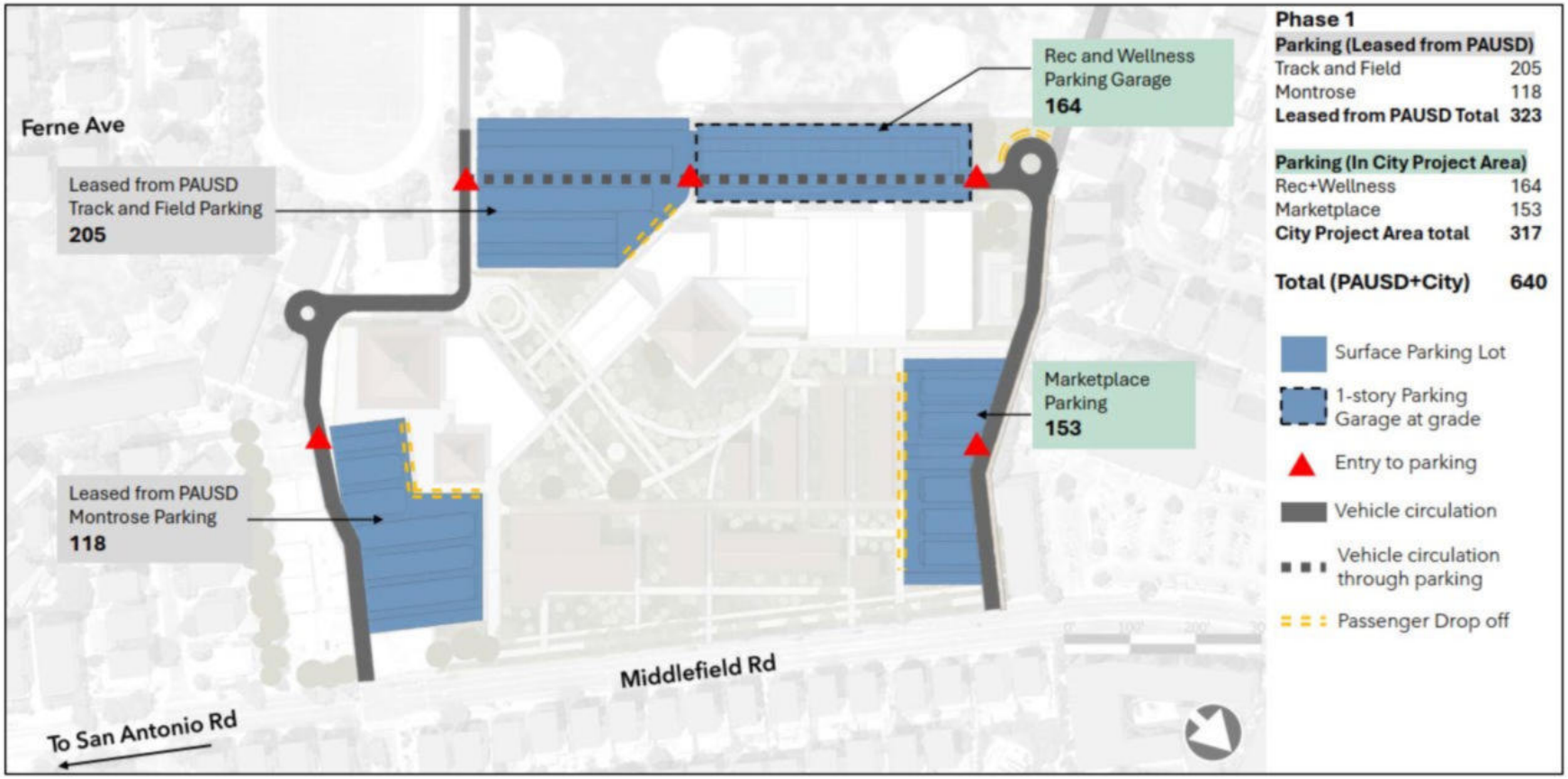
Table 2 Total Project Summary for All Phases

Component	Total Area (square feet)
Maintenance	16,000
Recreation and Wellness Center	54,000
Large Flex	9,000
Café/Kitchen	5,000
Building I Flex Space	13,000
Performing Arts	18,000
Community Theatre	4,000
Education and Enrichment	16,000
Flex (Education/Performing Arts)	27,000
Theatre Back of House	20,000
Visual Arts/Makerspace/Workshops	18,000
Visual Arts/Gallery	21,000
Café/Lounge	5,000
Rental/Flex (Small, Medium)	32,000
Rental/Flex (Small, Medium)	26,000
Total	**284,000**

PARKING

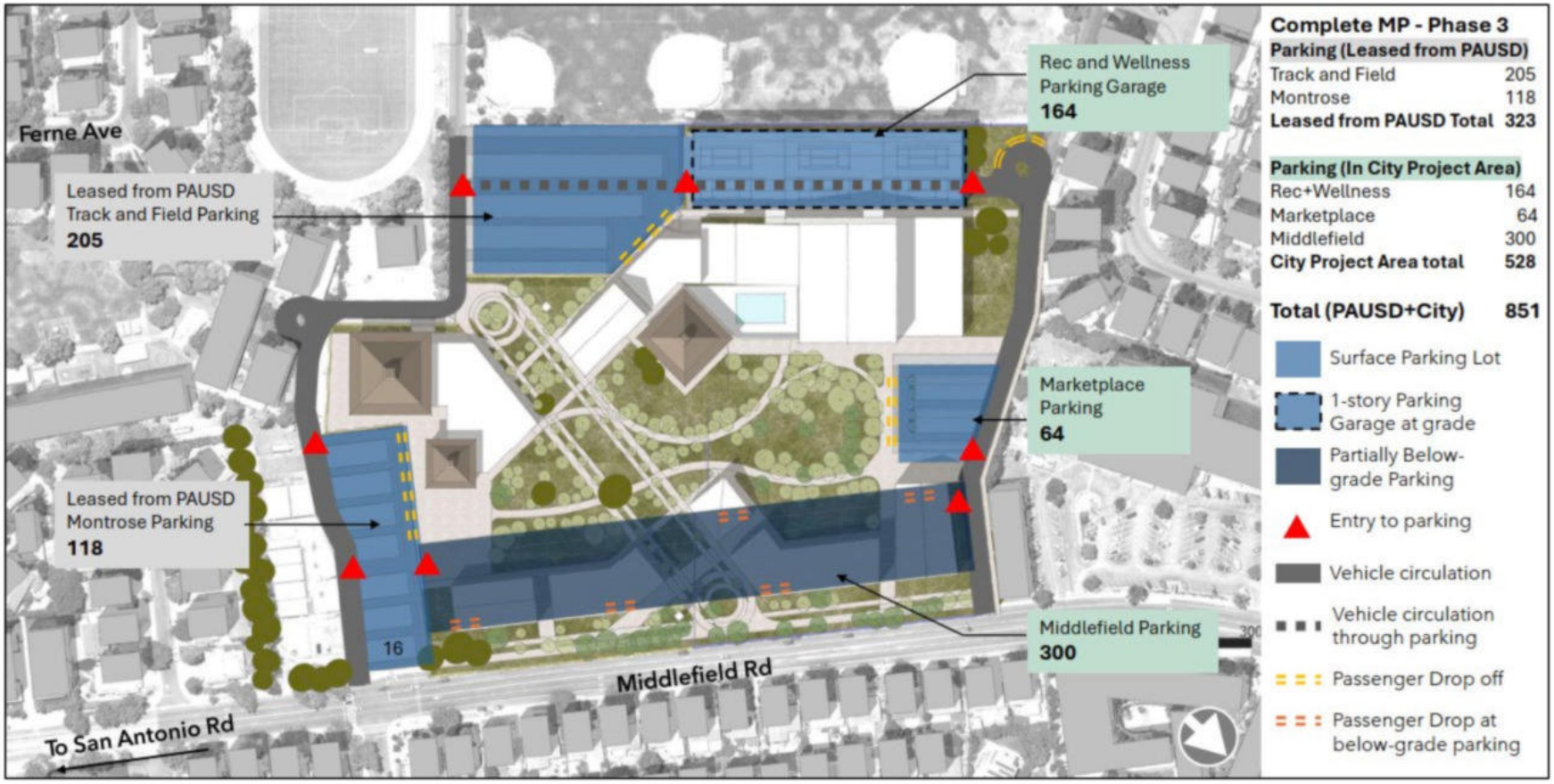
The Master Plan, after completion of all phases, proposes a total of 528 parking spaces within the Plan Area to support the range of community uses planned for the Project. The Master Plan also envisions leasing 323 surface parking spaces from PAUSD properties adjacent to the southern and eastern boundaries of the Plan Area to serve the Community Center. Parking would be provided through a combination of surface and parking garage facilities, with capacity increasing over the course of phased development. The number of spaces would grow from 520 existing stalls (180 within the Plan Area and 340 leased from PAUSD), to 640 stalls in Phase 1 (317 within the Plan Area and 323 leased from PAUSD), and reaching 851 stalls (528 within the Plan Area and 323 leased from PAUSD) at full buildout. This parking strategy includes a portion of parking located in a partially below-grade structure to preserve open space and improve site circulation. The partially underground parking garage would be located on the northern portion of the Plan Area with access to both the west and east side of the Plan Area. A one-story parking garage at grade would also be provided in the southern portion of the Plan Area with access from west side of the Plan Area. The locations of parking areas for Phase 1 are illustrated in Figure 7 and the parking diagram for full buildout is illustrated on Figure 8.

Figure 7 Phase 1 Proposed Parking Diagram



Source: City of Palo Alto 2025

Figure 8 Proposed Parking Diagram at Full Buildout



Source: City of Palo Alto 2025

SITE CIRCULATION

The Master Plan incorporates a circulation network designed to prioritize pedestrian and bicycle access throughout the site. A system of pedestrian-oriented pathways would connect key community spaces, plazas, and open areas, while bicycle-oriented pathways would also connect through and around the site. Vehicular access would be provided via driveways from Middlefield Road on the western and eastern boundaries of the Plan Area. Vehicle circulation would be limited to the outer edges of the site, with access roads and parking located along the western and eastern boundaries. This layout supports safe and efficient movement while minimizing conflicts between modes of travel and preserving the site's open space character.

PHASING

The vision outlined in the Master Plan would be implemented in three phases to control cost over time and to stage construction in a way that maintains proper placement of community services, ensuring continuity of programs and services during construction. Each phase would involve demolition and construction or renovation at a portion of the Project Area.

Phase 1 consists of two parts: a variety of buildings planned for various recreational community services (Recreation Wellness Center), a Performing Arts Center, and surface parking. Phase 1 also includes renovation of remaining buildings so the full site continues to be operational until Phases 2 and 3 can be completed. Buildings that will eventually get demolished in Phase 2 and 3 would be temporarily renovated in Phase 1 to ensure facilities remain functional while the City secures additional funding for the later phases. Phase 2 centers on the construction of visual arts and technology buildings, while Phase 3 completes the remaining community service facilities.

Table 3 shows the proposed demolition, renovation, and new construction for Phase 1, Table 4, shows the proposed demolition and new construction for Phase 2, Table 5 shows the proposed demolition and new construction for Phase 3, and Table 6 shows the overall phasing and estimated timeframe.

Table 3 Phase 1 Demolition, Renovation, and New Construction

Component	Total Area (square feet)
Demolition	
Building A	5,000 sf
Building B	8,000 sf
Portion of Building C	2,500 sf
Portion of Building D	1,250 sf
Building G	15,000 sf
Portion of Building I	5,000 sf
Building FH	1,000 sf
Building J	8,000 sf
Building K	8,000 sf
Building L	14,000 sf

Component	Total Area (square feet)
Building M	6,000 sf
Building H	8,000 sf
Portion of Theater	8,000 sf
Building P	4,000 sf
Building U	5,000 sf
Subtotal Building Demolition	***98,750 sf***
Tennis Courts	48,000 sf
Renovation	
Auditorium	17,000 sf
Portion of Building C	2,500 sf
Portion of Building D	3,750 sf
Building E	5,000 sf
Building F	5,000 sf
Portion of Building I	13,000 sf
Building S	6,000 sf
Building T	8,000 sf
Building V	1,000 sf
Pavilion	18,000 sf
Theater	4,000 sf
Renovation Subtotal	***83,250 sf***
New Construction	
Recreation/Wellness	54,000 sf
Facilities + Emergency Services	16,000 sf
Large Flex	9,000 sf
Café/Kitchen/Concessions	5,000 sf
Education/Enrichment	16,000 sf
Performing Arts/Education Flex Space	27,000 sf
Lobbies and Back of House	20,000 sf
Subtotal New Construction	***147,000***
Total Area (Renovation + New Construction)	**230,250 sf**
Parking Structure	96,000 sf

Table 4 Phase 2 Demolition and New Construction

Component	Total Area (square feet)
Demolition	
Auditorium	17,000 sf
Building S	6,000 sf
Subtotal Building Demolition	***23,000 sf***
New Construction	
Visual Arts/Makerspace	19,500 sf
Visual Arts/Gallery	19,500 sf
Subtotal New Construction	***39,000 sf***
Partial Underground Parking	**57,000 sf**

Table 5 Phase 3 Demolition and New Construction

Component	Total Area (square feet)
Demolition	
Portion of Building C	2,500 sf
Portion of Building D (25%)	3,750 sf
Building E	5,000 sf
Building F	5,000 sf
Building T	8,000 sf
Building V	1,000 sf
Subtotal Building Demolition	***25,250 sf***
Demo of Phase 1 Parking	19,000 sf
New Construction	
Café/Community	5,000 sf
Community Services	32,000 sf
Rental Flex	26,000 sf
Subtotal New Building Construction	***63,000 sf***
Partial Underground Parking	58,000 sf

Table 6 Overall Phasing Plan and Estimated Timeframe

Phase	Activity	Approximate Area (Square Feet)	Estimated Construction Duration	Estimated Construction Timeframe
Phase 1	Demolition	98,750 sf	29 months	2030-2032
	Renovation	83,250 sf		
	New Construction	147,000 sf		
Phase 2	Demolition	23,000 sf	18 months	Unknown
	Renovation	-		
	New Construction	39,000 sf		

Phase	Activity	Approximate Area (Square Feet)	Estimated Construction Duration	Estimated Construction Timeframe
Phase 3	Demolition	25,250 sf	18 months	Unknown
	Renovation	-		
	New Construction	63,000 sf		

UTILITIES

The City of Palo Alto Utilities Department (CPAU) provides electric, natural gas, refuse, recycled water, storm drain, and wastewater collection, treatment, and disposal to the Plan Area. The City of Palo Alto, including the Plan Area, receives its water from the San Francisco Public Utilities Commission (SFPUC). The City of Palo Alto would provide police and fire protection services.

PALO ALTO GREEN BUILDING CHECKLIST AND SUSTAINABILITY

In addition to California Building Code (CBC) requirements, the City of Palo Alto has adopted more stringent green building regulations. The Palo Alto Green Building Ordinance (Ord. 5393, 2017) requires applicants to incorporate sustainable design, construction, and operational requirements into most single-family residential, multi-family residential, and non-residential projects. For non-residential projects, the City has adopted California Green Building Standards Code (CALGreen) Tier 2 for additions and renovations over 1,000 square feet and CALGreen Tier 2 for new construction (City of Palo Alto 2017b, City of Palo Alto 2017c). To achieve Tier 2 status, a project must comply with the requirements identified in CALGreen Appendix A4, Division A4.601.5 and be 10 percent more energy efficient than the base CALGreen requirements.

9. REQUIRED APPROVALS

The Master Plan would require review by the Palo Alto Planning and Transportation Commission, Architectural Review Board, and Parks and Recreation Commission and adoption by the Palo Alto City Council.

Should the City move forward with a Comprehensive Plan amendment to implement the Master Plan, this would require a recommendation from the Palo Alto Planning and Transportation Commission and approval from the Palo Alto City Council.

10. OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

The City of Palo Alto is the lead agency with responsibility for approving the proposed Plan.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry Resources	■	Air Quality
☐	Biological Resources	☐	Cultural Resources	☐	Energy
■	Geology/Soils	☐	Greenhouse Gas Emissions	■	Hazards & Hazardous Materials
☐	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
■	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	■	Transportation	☐	Tribal Cultural Resources
☐	Utilities/Service Systems	☐	Wildfire	■	Mandatory Findings of Significance

DETERMINATION

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

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ENVIRONMENTAL CHECKLIST

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	■
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

SETTING

The Plan Area encompasses 15 acres and is located on generally flat terrain near the southeastern boundary of the City of Palo Alto. The surrounding neighborhood is primarily residential, with a mix of one- and two-story single-family residences exhibiting a range of architectural styles. To the south of the Plan Area is a state-designated historic district characterized by one-story midcentury modern residences designed by Joseph Eichler. Other residential buildings to the north, east, and west are a mix of architectural styles and a range between one and two stories. The non-residential uses directly adjacent to the north consist of a one-story strip mall with a surrounding surface parking lot, while the non-residential uses further east and west are primarily one- and two-story utilitarian buildings designed to be auto-oriented with surrounding surface parking lots.

The Plan Area is currently occupied by the Cubberley Community Center, including public exercise and meeting facilities. The buildings are mostly one-story with one two-story building and their style is fairly utilitarian, with rectangular and square floor plans and limited architectural detail.

STATE REGULATIONS

CALIFORNIA SCENIC HIGHWAY PROGRAM

Through enforcement of the California Scenic Highway Program, Caltrans protects State scenic highway corridors from changes which would diminish the aesthetic value of lands adjacent to the highways. Caltrans has not designated any highway within Palo Alto as a scenic highway. While the stretch of Interstate 280 (I-280), which crosses the southern portion of the developed part of Palo Alto, is identified by Caltrans as an eligible State-designated scenic highway, it has not yet been officially designated.

LOCAL REGULATIONS

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to aesthetic resources and apply to the proposed Plan (City of Palo Alto 2017a):

Goal L-6: Design of Buildings and Public Space: Well-designed buildings that create coherent development patterns and enhance city streets and public spaces.

- **Policy L-6.1** Promote high-quality design and site planning that is compatible with surrounding development and public spaces.
- **Policy L-6.2** Use the Zoning Ordinance, design review process, design guidelines and Coordinated Area Plans to ensure high quality residential and commercial design and architectural compatibility.
- **Policy L-6.4** In areas of the City having a historic or consistent design character, encourage the design of new development to maintain and support the existing character.
- **Policy L-6.5** Guide development to respect views of the foothills and East Bay hills along public street corridors in the developed portions of the City.
- **Policy L-6.6** Design buildings to complement streets and public spaces; to promote personal safety, public health and wellbeing; and to enhance a sense of community safety

Goal L-9: Attractive, inviting public spaces and streets that enhance the image and character of the city.

- **Policy L-9.1** Recognize Sand Hill Road, University Avenue between Middlefield Road and San Francisquito Creek, Embarcadero Road, Page Mill Road, Oregon Expressway, Interstate 280, Arastradero Road (west of Foothill Expressway), Junipero Serra Boulevard/Foothill Expressway and Skyline Boulevard as scenic routes and preserve their scenic qualities.

Policy L-9.2 Encourage development that creatively integrates parking into the project, including by locating it behind buildings or underground wherever possible, or by providing for shared use of parking areas. Encourage other alternatives to surface parking lots that minimize the amount of land devoted to parking while still maintaining safe streets, street trees, a vibrant local economy and sufficient parking to meet demand.

Policy L-9.4 Maintain and enhance existing public gathering places and open spaces and integrate new public spaces at a variety of scales.

Goal N-7: A clean, efficient energy supply that makes use of cost-effective renewable resources.

Policy N-7.5 Encourage energy efficient lighting that protects dark skies and promotes energy conservation by minimizing light and glare from development while ensuring public health and safety.

PALO ALTO MUNICIPAL CODE

The Plan Area is in both the Public Facilities Zoning District and the Design Review Combing District (PF(D)). The purpose of the Design Review Combing District is to "provide a process for review and approval of development in environmentally and ecologically sensitive areas, including established community areas which may be sensitive to negative aesthetic factors, excessive noise, increased traffic or other disruptions, in order to assure that use and development will be harmonious with other uses in the general vicinity, will be compatible with environmental and ecological objectives, and will be in accord with the Palo Alto Comprehensive Plan" (City of Palo Alto 2017b). Projects within this District are reviewed and approved by the Planning Commission, the Architectural Review Board, and finally the City Council, and are subject to the following objectives:

a) To ensure construction and operation of the use in a manner that will be orderly, harmonious, and compatible with existing or potential uses of adjoining or nearby sites.
b) To ensure the desirability of investment, or the conduct of business, research, or educational activities, or other authorized occupations, in the same or adjacent areas.
c) To ensure that sound principles of environmental design and ecological balance shall be observed.
d) To ensure that the use will be in accord with the Palo Alto Comprehensive Plan.

In addition to the zoning requirements applicable to the Master Plan, exterior lighting for new development must comply with the lighting standards set forth in Palo Alto Municipal Code (PAMC) Section 18.40.250. These standards are intended to ensure that lighting on development sites minimizes visual impacts on adjacent properties, reduces glare and nighttime spillover, maintains safe pedestrian and vehicular access, supports energy efficiency, and complements site and building design. PAMC Section 18.40.250 establishes both qualitative guidelines and mandatory requirements regulating fixture height, shielding, illumination levels, placement, and operational controls to prevent excessive light trespass, particularly in areas adjoining residential uses.

IMPACT ANALYSIS

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

The 2030 Palo Alto Comprehensive Plan identifies views of the Baylands to the northeast and views of the foothills to the southwest as important in contributing to the City's visual character and identity. As noted above under Local Regulations, Policy L-9.1 also identifies several scenic routes and major view corridors that should be protected. The Plan Area is not located within a major view corridor or along a scenic route. The nearest scenic resource is a view corridor along East Meadow Drive, approximately 0.6 miles southwest of the Plan Area, looking south toward the foothills. Given the location of the Plan Area in relation to this view corridor, implementation of the proposed Master Plan would not affect the views available from or through East Meadow Drive. Moreover, due to surrounding development and the Plan Area's location on Palo Alto's flatter terrain, views of other scenic resources that are further away are not available from or through the Plan Area; views are limited to the immediate area. Finally, while implementation of the Master Plan could result in the construction of buildings one or two stories taller than those currently on-site, existing development within and around the Plan Area already generally obstructs views through the site. As a result, adding additional building height would not substantially further block any scenic vistas, and scenic resources would remain generally unaffected. No impact would occur.

NO IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The Plan Area is not located along or in proximity to a California State Officially Designated Scenic Highway (Caltrans 2011). Moreover, according to Policy Program L-9.1 from the Land Use and Design Chapter of the Comprehensive Plan, roads with high scenic value are Sand Hill Road, University Avenue, Embarcadero Road, Page Mill Road/Oregon Expressway, Interstate 280, Arastradero Road (west of Foothill Expressway), Junipero Serra Boulevard/Foothill Expressway, and Skyline Boulevard. The Plan Area is not located near or visible from any of the listed roads and therefore the project would not damage scenic resources within a state scenic highway or other scenic routes. No impact would occur.

NO IMPACT

c. Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The Plan Area is in an urbanized area. The proposed Master Plan would allow a combination of renovation, demolition, and new construction to support a range of community-oriented spaces and amenities. The Plan emphasizes creating high-quality, visually appealing open spaces and circulation areas. Existing concrete aisles between buildings would be replaced with landscaped areas, pedestrian and bicycle pathways, plazas, gardens, and other programmed

outdoor spaces, enhancing the site's visual characters. Development would be concentrated along Middlefield Road, and the existing sports fields south of the Plan Area would remain and provide a visual buffer between the new development and the existing Greenmeadow neighborhood.

New buildings constructed as a part of Plan implementation would be subject to Major Architectural Review, approval of which is subject to the findings in PAMC Section 18.76.020, including, but not limited to, those listed below, which would ensure that implementation of the Master Plan would enhance the existing visual character of the Plan Area.

1. The design is consistent with applicable provisions of the Palo Alto Comprehensive Plan, Zoning Code, coordinated area plans (including compatibility requirements), and any relevant design guides.
2. The project has a unified and coherent design.
3. The design is of high aesthetic quality, using high quality, integrated materials and appropriate construction techniques, and incorporating textures, colors, and other details that are compatible with and enhance the surrounding area.

Implementation of the Master Plan would also be consistent with the Goals and Policies in the City's Comprehensive Plan that govern scenic quality. The Master Plan has been designed based on community input regarding the design of buildings and public spaces within the Plan Area; consistent with Goal L-6 of the Comprehensive Plan, the buildings would be well designed and contribute to a pattern in the Plan Area and the surrounding neighborhood. In addition, the Master Plan would be consistent with Goal L-9 of the Comprehensive Plan because it is intended to enhance the public community center space: surface parking would be mostly relocated to parking garages, and the indoor and outdoor public gathering places would be newly designed to meet the needs of City residents.

Given that the proposed Master Plan would further the goals in the City's Comprehensive Plan and that new buildings would be subject to the design review requirements in the PAMC, the proposed Master Plan would not conflict with applicable zoning and other regulations governing scenic quality. Proposed development would be required to comply with PAMC Chapter 8.24, which includes the City's objective design standards for building height and massing to ensure compatibility with adjacent development and to maintain a human-scaled visual environment. In addition, the Master Plan's landscaping components would support the City's goal of expanding the urban tree canopy, as identified in Comprehensive Plan Policy N-2.7, and would reinforce high-quality streetscape design consistent with Policy L-6.6. Compliance with applicable zoning standards and Comprehensive Plan policies would ensure that new development facilitated by the proposed project would maintain visual character and would not degrade scenic quality. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The Plan Area is in an urbanized area with relatively moderate levels of existing lighting. The adjacent residential, commercial, and roadway uses generate light and glare along all sides of

the property. Primary sources of light adjacent to the Plan Area include lighting associated with the existing residential and commercial buildings, including building-mounted and perimeter lighting as well as interior lighting visible through windows; streetlights; and headlights from vehicles on nearby streets. Sources of light within the Plan Area include interior lighting visible through windows, headlights from vehicles, and exterior building and pole lights to illuminate signage and parking areas. The primary source of glare adjacent to the Plan Area is the sun's reflection from metallic and glass surfaces on buildings and on vehicles parked on adjacent streets and in adjacent parking areas. Light-colored and reflective building materials and vehicles parked within the Plan Area are the primary source of daytime glare in the Plan Area.

Implementation of the proposed Master Plan would involve new exterior lighting in the form of pedestrian walkway lighting and other safety-related lighting. Additionally, new interior lighting would be visible through windows in new buildings. These light sources would not have a significant impact on the night sky, as they would only incrementally add to the existing background light levels already present in the Plan Area and from the surrounding street lighting and urban development. In addition, all new lighting would be required to comply with lighting standards under PAMC Section 18.40.250, which establish downward-directed fixtures, limits on illumination levels, shielding requirements, and light-trespass restrictions to minimize glare and avoid excessive lighting. These measures, together with the City's broader lighting regulations requiring reduced uplight, controlled glare, and shielding to limit light pollution, further ensure compatibility with surrounding development. Consistent with Comprehensive Plan Policy N-7.5, which promotes reducing unnecessary nighttime lighting to protect environmental quality and maintain dark-sky conditions, the Master Plan's lighting would be designed to minimize off-site spillover and avoid degradation of nighttime visual character. Because of the similar existing ambient lighting levels in the vicinity of the Plan Area, Plan development would not substantially alter this condition. Impacts related to lighting would be less than significant.

The Master Plan would include building materials, such as glass railings and windows that may create some glare. However, because the Plan would involve minimal surface parking and parking areas would be within parking garages, glare from vehicles parked in project parking areas would be reduced compared to existing conditions. In addition, development of the Master Plan would be required to comply with Policy N-7.5 of the Comprehensive Plan, which calls for the City to "[e]ncourage energy efficient lighting that protects dark skies and promotes energy conservation by minimizing light and glare from development while ensuring public health and safety." Therefore, implementation of the Plan would not result in a substantial source of glare that would adversely affect day or nighttime views. Impacts related to glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	■

SETTING

The Plan Area is developed with a community center and is in a developed, urban area of Palo Alto, surrounded by development including roadways and commercial and residential uses. The Plan Area occurs within the City's Public Facilities Zoning District.

The California Department of Conservation (DOC) manages the Farmland Mapping and Monitoring Program to assess and record how suitable a particular tract of land is for agricultural purposes. In each county, the land is analyzed for soil and irrigation quality, and the highest quality land is designated as Prime Farmland. The Plan Area and its vicinity do not contain identified agricultural or forest land (DOC 2018).

LOCAL REGULATIONS

There are no properties designated or used for agriculture within or near the Plan Area; therefore, there are no policies specific to agriculture and forest resources that apply to the proposed project (City of Palo Alto 2017a).

IMPACT ANALYSIS

a. *Would the project convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

b. *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

e. *Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

According to the Department of Conservation's (DOC) Important Farmland Finder (DOC 2018), the Plan Area is located on Urban and Built-Up Land. The Plan Area is not identified as any farmland type, it is not enrolled in Williamson Act contracts, and it does not support forest land or resources. The Plan Area is not located on or adjacent to agricultural land or forest land and the Master Plan would not involve development that could result in the conversion of farmland to non-agricultural uses. The area is occupied by the community center. Therefore, the proposed Master Plan would have no impact with respect to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use; conflict with existing agricultural zoning or Williamson Act contracts; result in the loss of forest land or conversion of forest land to non-forest use; or other conversion of farmland to non-agricultural use.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

SETTING

OVERVIEW OF AIR POLLUTION

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[1] nitrogen oxides (NO_X), particulate matter (PM) with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_X. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

[1] California Air Resource Board (CARB) defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this IS-MND.

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.
- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

AIR QUALITY STANDARDS AND ATTAINMENT

The Plan Area is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air District (Air District). The Air District has jurisdiction over much of the nine-county Bay Area, including some parts of Sonoma County. As the local air quality management agency, the Air District is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, SFBAAB is classified as being in "attainment" or "nonattainment." In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants. Table 7 presents the human health impacts associated with all criteria air pollutants. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. SFBAAB is designated a nonattainment area for the federal 8-hour ozone standard, federal $PM_{2.5}$ 24-hour standard, state 8-hour and 1-hour ozone standards, state PM_{10} annual and 24-hour standards, and the state $PM_{2.5}$ 24-hour standard. (CARB 2023; USEPA 2025a). This nonattainment status is a result of several factors, such as mobile sources, wood burning, industrial combustion, and dust, in SFBAAB.

Table 7 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.

Pollutant	Adverse Effects
Nitrogen dioxide (NO_2)	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide (SO_2)	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter (PM_{10} and $PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma).
Lead	(1) Learning disabilities; (2) impairment of blood formation and nerve function; (3) cardiovascular effects, including coronary heart disease and hypertension; and (4) possible male reproductive system effects.

Source: USEPA 2025b

AIR QUALITY MANAGEMENT

The Bay Area 2017 Clean Air Plan ("2017 Plan") provides a plan to improve Bay Area air quality and protect public health as well as the climate. The legal impetus for the 2017 Plan is to update the most recent ozone plan, the 2010 Clean Air Plan, to comply with state air quality planning requirements as codified in the California Health & Safety Code. Although steady progress has been made toward reducing ozone levels in the Bay Area, the region continues to be designated as non-attainment for both the one-hour and eight-hour state ozone standards as noted previously. In addition, emissions of ozone precursors in the Bay Area contribute to air quality problems in neighboring air basins. Under these circumstances, state law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and reduce transport of ozone precursors to neighboring air basins (Air District 2017).

AIR EMISSIONS THRESHOLDS

REGIONAL SIGNIFICANCE THRESHOLDS

The Air District's *2022 CEQA Air Quality Guidelines* are used in this analysis to evaluate air quality. The Air District has developed screening tables for criteria air pollutants that categorize projects by land use and size to determine whether a detailed assessment of air quality emissions is required. The Master Plan does not meet the screening criteria; therefore, Table 6 shows the significance thresholds for construction and operational-related criteria air pollutant and precursor emissions being used for the purposes of this analysis. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. For the purposes of this analysis, the Master Plan would result in a significant impact if construction or operational emissions would exceed thresholds as shown in Table 8.

Table 8 Air Quality Thresholds of Significance

Pollutant/Precursor	Construction-Related Thresholds	Operation-Related Thresholds	
	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)	Average Daily Emissions (pounds per day)
ROG	54	10	54
NO_X	54	10	54
PM_{10}	82 (exhaust)	15	82
$PM_{2.5}$	54 (exhaust)	10	54

Notes: NO_X = oxides of nitrogen; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; PM_{10} = particulate matter 10 microns in diameter or less; ROG = reactive organic gases.

Source: Table 3-1, Air District 2023a

CARBON MONOXIDE

The Air District provides a preliminary screening methodology to conservatively determine whether a proposed project would exceed carbon monoxide thresholds. If the following criteria are met, a project would result in a less than significant impact related to local carbon monoxide concentrations:

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

TOXIC AIR CONTAMINANTS

The Air District has established the following thresholds of significance for local community risks and hazards associated with TACs and $PM_{2.5}$ for assessing individual project-level impacts at a local level (Air District 2023b):

- Not to exceed an increased cancer risk of >10 in one million.
- Not to exceed increased non-cancer (i.e., Chronic or Acute) risk of >1.0 Hazard Index.
- Not to exceed ambient $PM_{2.5}$ concentration increase >0.3 micrograms per cubic meter ($\mu g/m^3$) annual average.

A project would have a cumulatively considerable impact if the aggregate total of current and proposed TAC sources within a 1,000 feet radius of the project fence line in addition to the proposed project would exceed the following thresholds of significance:

- Not to exceed an increased cancer risk of >100 in one million.
- Not to exceed increased non-cancer (i.e., Chronic or Acute) risk of >10 Hazard Index.
- Not to exceed ambient $PM_{2.5}$ concentration increase >0.8 μg/m^3 annual average.

Alternatively, a project that demonstrates compliance with an adopted Qualified Community Risk Reduction Plan may be found to have a less than significant impact, even if the above thresholds are met. Conversely, for projects in areas where a Community Risk Reduction Plan has been adopted, inconsistency with the Community Risk Reduction Plan would demonstrate a significant impact.

ODOR SOURCES

The Air District provides minimum distances for siting of new odor sources as shown in Table 9. A significant impact would occur if the project would result in other emissions (such as odors) affecting substantial numbers of people or would site a new odor source within the specified distances of existing receptors.

Table 9 Air District Odor Source Thresholds

Odor Source	Minimum Distance for Less than Significant Odor Impacts (in miles)
Wastewater treatment plant	2
Wastewater pumping facilities	1
Sanitary Landfill	2
Transfer Station	1
Composting Facility	1
Petroleum Refinery	2
Asphalt Batch Plant	2
Chemical Manufacturing	2
Fiberglass Manufacturing	1
Painting/Coating Operations	1
Rendering Plant	2
Coffee Roaster	1
Food Processing Facility	1
Confined Animal facility/feed lot/diary	1
Green Waste and Recycling Operations	1
Metal Smelting Plants	2

METHODOLOGY

Air pollutant generated by Master Plan construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1. CalEEMod uses project-specific information, including the project's land uses, to model construction and operational

emissions. The analysis reflects the construction and operation of the Master Plan as described under Section 8, *Description of Project*.

Master Plan construction would primarily generate temporary criteria pollutant emissions from construction equipment operation onsite and vehicle trips associated with construction, such as workers, vendor, and water truck trips. Construction of the Master Plan was analyzed based on the building characteristics provided by the applicant, as shown in Section 8, *Description of Project*, Tables 3 through 6.[2] The Master Plan would be constructed in three phases, beginning in 2030. Phase 1 construction would have a duration of approximately 29 months, followed by Phase 2 and Phase 3, each with a duration of 18 months. For a conservative analysis, it is assumed that Phase 2 and Phase 3 would occur after the completion of the preceding phase, since the start of construction could be delayed and begin much later than assumed. Additionally, it is assumed construction activity would occur Monday through Saturday, consistent with the City of Palo Alto Municipal Code.

Based on the Master Plan's building characteristics, CalEEMod provides assumptions for equipment lists, construction schedule, and construction vehicle trips. The Plan Area is an infill site and would not require site preparation phases to remove or clear vegetation. Phase 1 building construction phase was divided into two parts: a renovation building construction phase and a new building construction phase. The renovation building construction phase is assumed to involve interior construction with minimal heavy-duty equipment, limited to two forklifts for material movement between buildings. The new building construction phase uses CalEEMod default equipment assumptions. It is assumed all excavated soils during the grading phases would be used as backfill onsite. Additionally, it was assumed that construction equipment would be diesel-powered and that the Master Plan would be required to comply with all applicable regulations, such as Air District Regulation 8 Rule 3 for architectural coatings and Air District's Basic Best Management Practices for Construction-Related Fugitive Dust Emissions. Please see Appendix A for more information regarding calculations and assumptions.

Operational emissions modeled include mobile source emissions and area sources. Mobile source emissions are generated by vehicle trips to and from the Plan Area. The average daily trips were sourced from the Transportation Analysis prepared by Hexagon Transportation Consultants (Hexagon Transportation Consultants 2026). CalEEMod trip generation rates were adjusted to reflect each construction phase (Phase I, II, and III) based on proportional Master Plan buildout. Full buildout is estimated to generate 8,185 gross average daily trips (ADT) or 2,882 net ADT. Area source emissions are generated by consumer products and architectural coatings. The Master Plan does not include natural gas; therefore, onsite energy sources are not included in the analysis. According to Air District's 2022 CEQA Guidelines, since concurrent construction and operational emissions would occur, construction-related exhaust emissions should be combined with operational emissions for all phases where construction and operations overlap.

[2] The analysis relies on demolition quantities that are slightly higher than those currently reflected in the Master Plan. As a result, the modeling is conservative, and any reduction in demolition square footage would reduce construction-related emissions. The impact determinations would remain the same with these decreases.

HEALTH RISK ASSESSMENT

The construction health risk assessment (HRA) was performed in accordance with the revised Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). The OEHHA Guidance considers the sensitivity of children to TAC emissions, different breathing rates, and time spent at home. Children have a higher breathing rate compared to adults and would likely spend more time at home in nearby residences resulting in longer exposure durations.

The process of assessing health risks and impacts includes a degree of uncertainty. The level of uncertainty depends on the availability of data and the extent to which assumptions are relied upon in cases where the data are incomplete or unknown. All HRAs rely upon scientific studies to reduce the level of uncertainty; however, it is not possible to eliminate uncertainty from the analysis. Where assumptions are used to substitute for incomplete or unknown data, it is standard practice in performing HRAs to err on the side of health protection to avoid underestimating or underreporting the risk to the public. In general, sources of uncertainty that may lead to an overestimation or an underestimation of the risk include extrapolation of the toxicity data associated with animal exposure used to estimate exposure effects in humans and uncertainty in the exposure estimates. In addition to uncertainty, there exists “a natural range or variability in measured parameters defining the exposure scenario” and the fact that “the greatest quantitative impact is variation among the human population in such properties as height, weight, food consumption, breathing rates, and susceptibility to chemical toxicants” (OEHHA 2015).

The greatest potential for TAC emissions during construction would be DPM emissions associated with heavy-duty equipment. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used. These products would comply with all applicable Air District rules for their manufacture and use. The Master Plan would be subject to several Air District rules designed to limit exposure to TACs during construction activities.

CANCER RISK

Health risk impacts are assessed using a health risk calculation methodology that is consistent with the 2015 OEHHA Guidance and the Air District’s *Health Risk Assessment Modeling Protocol (2020)*. This HRA addresses construction DPM emissions and the effects on nearby sensitive uses.

Health impacts are evaluated using a dose-response assessment, which describes the relationship between the level of exposure to a substance (i.e., the dose) and the incidence or occurrence of injury (i.e., the response). To determine the total dose to off-site sensitive receptors, the applicable pathways of exposure (e.g., inhalation) should be identified for the emitted substances, and the receptor locations are identified. The applicable exposure pathways determine the exposure algorithms that are used to estimate dose. After the exposure pathways are identified, the applicable fate and transport algorithms are used to estimate concentrations in the applicable exposure media (e.g., air) and the exposure algorithms are used to determine the substance-specific dose. In accordance with the OEHHA Guidance, the inhalation pathway was evaluated for construction and operational related projects. For the residential inhalation pathway, the dose is directly proportional to the

breathing rate. OEHHA recommends using high end breathing rates (95th percentile) for children from the 3rd trimester through age two, and 80th percentile breathing rates for all other ages for residential exposures.

Once dose is calculated, cancer risk is calculated by accounting for cancer potency of the specific pollutant, age sensitivity, exposure duration, averaging time for lifetime cancer risk, and fraction of time spent at home (sensitive receptor). The cancer potency factor (CPF) is specific for each pollutant and is determined through peer-reviewed scientific studies. For example, the Scientific Review Panel recommends a CPF for DPM of 3.0×10-4 (µg/m^3) and a slope factor of 1.1 (ppm-day).[3] The age sensitive factor (ASFs) account for greater susceptibility in early life as compared to adult exposure, starting from the third trimester of pregnancy to 16 years. The fraction of time at home (FAH) takes into account the time actually residing at the sensitive receptor location. FAH also takes into account time spent at home for various age groups. For example, newborns are expected to reside at home for longer periods of time compared to school-age children, and the elderly (retirees) are expected to spend more time at home compared to people of working age. As the Greendell daycare school is adjacent to the Plan Area, FAH of 1 is used for all receptors under 17 years of age. Each age group has different exposure parameters which require cancer risk to be calculated separately for each age group. The estimation of residential cancer risk uses the following algorithms:

Risk = Dose inhalation × Inhalation CPF × ASF (Equation 1)

Where:

Dose inhalation = CAIR × DBR × A × EF × ED × FAH/AT (Equation 2)

Inhalation CPF = inhalation cancer potency factor

ASF = age-sensitivity factor

Where:

CAIR = concentration of compound in air in micrograms per cubic meter (µg/m3)

DBR = breathing rate in liter per kilogram of body weight per day (L/kg-body weighty/day)

A = inhalation absorption factor (1 for DPM)

EF = exposure frequency in days per year (day/year)

ED = exposure duration in years (year)

FAH = fraction of time at home

AT = averaging time period over which exposure is averaged in days (day)

For assessment of off-site worker cancer risk, the estimation of worker cancer risk uses the following algorithms:

[3] CPF and slope factors are built into the HARP2 model used for quantifying risk.

Risk = Dose inhalation × CPF × ASF × ED/AT (Equation 3)

Where:

Dose inhalation = (CAIR × WAF) × DBR × A × EF × 10^{-6} (Equation 4)

Inhalation CPF = inhalation cancer potency factor

ASF = age-sensitivity factor

ED = exposure duration in years (year)

AT = lifetime cancer risk

Where:

CAIR = concentration of compound in air in micrograms per cubic meter (µg/m3)

WAF = worker adjustment factor

DBR = breathing rate in liter per kilogram of body weight per day (L/kg-body weighty/day)

A = inhalation absorption factor (1 for DPM)

EF = exposure frequency in days per year (day/year)

The incremental increase in cancer risk is the result of multiplying the dose by the pollutant-specific CPF values. Cancer risk is calculated by multiplying the inhalation dose by the inhalation CPF to yield the potential inhalation excess cancer risk. Cancer risk was evaluated for residences and workers in the surrounding area. Risk for all receptors as well as modeling output is included as part of Appendix B.

NON-CANCER RISK BACKGROUND

Non-cancer chronic impacts were assessed based on the hazard index (HI). The evaluation of chronic impacts is based on the maximum annual emissions over a 12-month period of construction activity. The chronic HI is calculated by dividing the maximum modeled annual average concentration at the maximum impacted sensitive receptor by the recommended exposure limit (REL). The REL is the concentration at or below which no adverse health effects are anticipated. For example, OEHHA has recommended an ambient concentration of 5 µg/m^3 as the chronic inhalation REL for DPM exhaust. Therefore, a sensitive receptor exposed to an annual average DPM concentration of 5 µg/m^3 or less would not result in a chronic impact. Non-cancer chronic impacts affect specific target organ systems (also called toxicological endpoints), such as the eye, nervous system, reproductive system, and respiratory system. The chronic health impact with the maximum HI for the same target organ system is used for impact determination.

FINE PARTICULATE MATTER

The Air District has incorporated $PM_{2.5}$ into the Air District's CEQA significance thresholds due to recent studies that show adverse health impacts from exposure to this pollutant. Epidemiological research has established that $PM_{2.5}$ exposure is associated with serious health outcomes, as these fine particles can penetrate deep into the lungs and enter the bloodstream.

Studies show a strong correlation between $PM_{2.5}$ concentrations, increased morbidity, and premature mortality. $PM_{2.5}$ exposure adversely affects both the respiratory and cardiovascular systems, contributing to asthma exacerbation, aggravated bronchitis, reduced lung function, and increased risks of atherosclerosis, ischemic stroke, and heart attacks. In the SFBAAB, $PM_{2.5}$ remains the leading public health risk and primary contributor to premature deaths associated with air pollution. An incremental increase of greater than 0.3 µg/m3 for the annual average $PM_{2.5}$ concentration is considered to be a significant impact.

HEALTH RISK CALCULATIONS

Construction emissions rates were based on anticipated max daily emissions modeled using the CalEEMod version 2022.1; refer to Appendix A for the data output sheets. CalEEMod differentiates between particulate matter emitted from engine exhaust (i.e., DPM) and particulate matter emitted from ground disturbing activities (i.e., fugitive dust, which does not constitute DPM) (California Air Pollution Control Officers Association 2022). DPM concentration was estimated based on the PM_{10} exhaust emissions (not including fugitive PM_{10}) provided by CalEEMod, which are DPM emissions resulting from combustion of diesel-fueled vehicles and off-road equipment during construction. PM_{10} exhaust is composed of DPM and other air toxics; therefore, PM_{10} exhaust is a conservative estimate for DPM emissions estimates. In addition, $PM_{2.5}$ emissions from both engine exhaust and fugitive sources were multiplied by AERMOD average concentration output to determine ground-level concentrations at nearby receptors for comparison to the Air District's $PM_{2.5}$ concentration thresholds. Please refer to Appendix B for more information related to construction health risk calculations.

DISPERSION MODELING

Dispersion modeling was performed using the USEPA-approved American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) with meteorological data from the representative Air District monitoring station located near the Plan Area. The nearest representative meteorological station is located at Moffet Field Airport, approximately three miles east of the Plan Area. The analysis uses National Elevation Dataset GeoTiff digital terrain files for terrain data at resolution of one arc-second (10 meters). Vehicle exhaust emissions sources for the Master Plan were located on the Plan Area corresponding to the areas of construction. The construction activity was modeled as area sources in AERMOD with an assumed release height of five meters, corresponding to the approximate height of off-road equipment mufflers from which exhaust emissions would be released (SCAQMD 2008). Line volume source was used to represent the construction haul route. The widths of the roadway segments were measured in Google Earth and an additional six meters were added to account for the roadway buffers. The plume height and release height to estimate cancer, chronic risk, and $PM_{2.5}$ exhaust are 6.8 meters and 3.4 meters, respectively, according to the Air District's Modeling Guidelines (Air District 2023c). To estimate ground-level $PM_{2.5}$ concentrations from fugitive dust, all sources were modeled with a release height of zero meters.

The presence of buildings and other structures disturbs downwind air flow. However, building downwash is only calculated for point sources and not appropriate to include in AERMOD for this HRA because there are no point sources in the analysis. AERMOD provides the

concentration estimated by the air quality model based on an emission rate of one gram per second (OEHHA 2015). Construction emissions would not be generated during nighttime hours; therefore, the dispersion modeling allocates the emissions during active construction hours, Monday through Friday from 8:00 a.m. to 6:00 p.m. and Saturday from 9:00 a.m. to 6:00 p.m. The urban dispersion option was applied using an estimated population of 1,936,259 for Santa Clara County (U.S. Census Bureau 2025).

Approximately 1,458 sensitive receptors were modeled within 1,000 feet of the Plan Area. A flagpole height (i.e., the height that a receptor is above the ground) of 1.5 meters was used for the ground-floor receptors (Air District 2020). Sites that were not modeled would result in risk that would be less than the risk modeled for those receptors included in the analysis.

HEALTH RISK

Health risk was calculated for the duration of Master Plan construction and based on a 30-year exposure period using in-house spreadsheets and is consistent with the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines: The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015).

CUMULATIVE HEALTH RISK

Appendix E of the Air District's *CEQA Air Quality Guidelines* (2023c) also recommends assessing cumulative impacts of a new source or sources in combination with existing sources located within 1,000 feet of the Plan Area. Because health risk focuses on sensitive receptors, cumulative impacts to the maximally exposed impacted receptor (MEIR), the residences adjacent to the eastern boundary of the Plan Area, were analyzed. The cumulative risk analysis includes the operation of the Master Plan as well as all existing sources within a 1,000-foot radius of the MEIR. The Palo Alto Arco station is the only stationary source located within 1,000 feet of the MEIR. Additionally, the cumulative analysis includes risk and $PM_{2.5}$ concentration associated with Middlefield Road and San Antionio Road.

IMPACT ANALYSIS

a. Would the Master Plan conflict with or obstruct implementation of the applicable air quality plan?

The California CAA requires that air districts create a Clean Air Plan that describes how the jurisdiction will meet air quality standards. The most recently adopted air quality plan is the Air District 2017 Plan (2017 Plan). The 2017 Plan builds upon and enhances the Air District's efforts to reduce emissions of fine particulate matter and TACs. The 2017 Plan does not include control measures that apply directly to individual development projects. Instead, the control strategy includes control measures related to stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

The 2017 Plan focuses on two paramount goals, both consistent with the mission of Air District:

- Protect air quality and health at the regional and local scale by attaining all national and state air quality standards and eliminating disparities among Bay Area communities in cancer health risk from TACs

- Protect the climate by reducing Bay Area GHG emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050

Under Air District's methodology, a determination of consistency with the 2017 Plan should demonstrate that a project:

- Supports the primary goals of the air quality plan
- Includes applicable control measures from the air quality plan
- Does not disrupt or hinder implementation of any air quality plan control measures

A project that would not support the 2017 Plan's goals would not be consistent with the 2017 Plan. On an individual project basis, consistency with Air District quantitative thresholds is interpreted as demonstrating support for the clean air plan's goals. As shown in the response to Threshold b (Table 11 and Table 12), the Master Plan would not result in exceedances of Air District thresholds for criteria air pollutants with mitigation incorporated and thus would not conflict with the 2017 Plan's goal to attain air quality standards. Furthermore, as shown in Table 10, the Master Plan would include applicable control measures from the 2017 Plan and would not disrupt or hinder implementation of such control measures. Therefore, Master Plan impacts related to consistency with the 2017 Plan would be less than significant.

Table 10 Project Consistency with Applicable Control Measures of 2017 Plan

Control Measure	Evaluation
TR9: Bicycle and Pedestrian Access and Facilities. Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities.	**Consistent**. The Master Plan would be required to incorporate both short-term and long-term bicycle parking facilities on-site to comply with CALGreen standards. These features will be confirmed and integrated into the Master Plan once the design details are finalized.
EN2: Decrease Electricity Demand. Work with local governments to adopt additional energy-efficiency policies and programs. Support local government energy efficiency program via best practices, model ordinances, and technical support. Work with partners to develop messaging to decrease electricity demand during peak times.	**Consistent**. The Master Plan would be required to comply with all energy efficiency standards of the latest Title 24 (including the California Energy Code and CALGreen). The Title 24 standards are updated every three years and become increasingly more stringent over time. Additionally, replace all electrical systems above- and below-grade as part of the new construction buildings and renovation of Building I, Theatre and Pavilion.
BL1: Green Buildings. Collaborate with partners such as KyotoUSA to identify energy-related improvements and opportunities for on-site renewable energy systems in school districts; investigate funding strategies to implement upgrades. Identify barriers to effective local implementation of the CALGreen (Title 24) statewide building energy code; develop solutions to improve implementation/enforcement. Work with ABAG's BayREN program to make additional	**Consistent**. The Master Plan would replace the existing photovoltaic (PV) panels and would add a battery backup microgrid with microgrid controller to shift between normal and emergency modes. New buildings would either be equipped with PV panels or constructed to be PV-ready. In addition, the Master Plan would be required to comply with the latest iteration of the 2025 Title 24 Building Efficiency Standards. For example, require a minimum 65 percent diversion of construction/demolition waste, use of low

Control Measure	Evaluation
funding available for energy-related projects in the buildings sector. Engage with additional partners to target reducing emissions from specific types of buildings.	pollutant emitting exterior and interior finish materials, and dedicated circuitry for electric vehicle charging stations. The CALGreen standards are updated every three years and become increasingly more stringent over time.
WR2: Support Water Conservation. Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance.	**Consistent**. The Master Plan would install ultra-high efficiency fixtures for savings in portable water. Additionally, the Master Plan would be required to comply with all water conservation standards of CALGreen that are in effect at that time.

Source: Air District 2017

LESS THAN SIGNIFICANT IMPACT

b. Would the Master Plan result in a cumulatively considerable net increase of any criteria pollutant for which the Master Plan region is non-attainment under an applicable federal or state ambient air quality standard?

CONSTRUCTION EMISSIONS

Construction activities associated with development of the Master Plan would temporarily generate emissions associated with equipment and fugitive dust. Construction emissions modeled include emissions generated by construction equipment used on the site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. Master Plan construction would occur over three sequential phases. Phase 2 and 3 are contingent on available funding but have been included to provide a conservative analysis of the Master Plan's potential full buildout. Each phase of construction, as summarized in Table 11, was modeled separately in CalEEMod. As shown in the table, the average daily emissions generated during construction would not exceed the Air District average daily thresholds. Therefore, impacts would be less than significant.

Table 11 Estimated Master Plan Construction Emissions

	Average Emissions (pounds per day)					
Year	ROG	NO_X	CO	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)	SO_X
Phase 1						
2030	1	10	15	<1	<1	<1
2031	1	5	9	<1	<1	<1
2032	7	1	2	<1	<1	<1
Phase 2						
2032	1	5	7	<1	<1	<1
2033	2	6	9	<1	<1	<1
Phase 3						
2033	<1	1	1	<1	<1	<1

Year	Average Emissions (pounds per day)					
	ROG	NO_X	CO	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)	SO_X
2034	1	7	11	<1	<1	<1
2035	2	2	4	<1	<1	<1
Air District Thresholds (average daily emissions)	**54**	**54**	**N/A**	**82**	**54**	**N/A**
Threshold Exceeded?	**No**	**No**	**N/A**	**No**	**No**	**N/A**

Source: See CalEEMod worksheets in Appendix A. Numbers may not add up due to rounding.

N/A = not applicable (no Air District threshold for CO or SO_X)

The Air District does not have quantitative thresholds for fugitive dust emissions during construction. Instead, the Air District recommends Best Management Practices (BMPs) be implemented to reduce construction-related fugitive dust emissions. Mitigation Measure AIR-2a in the EIR for the City's Comprehensive Plan states, "as part of the City's development approval process, the City shall require applicants for future development projects to comply with the current BAAQMD basic control measures for reducing construction emissions of PM_{10} (Table 8-1, *Basic Construction Mitigation Measures Recommended for All Proposed Projects,* of the BAAQMD CEQA Guidelines)" (City of Palo Alto 2016a). Therefore, the City of Palo Alto requires projects to implement BMPs consistent with the Air District *Basic Best Management Practices for Construction-Related Fugitive Dust Emissions*. These measures would be part of Standard Conditions of Approval for Master Plan construction. With the implementation of these Standard Conditions of Approval, construction air quality impacts would be less than significant.

LONG-TERM EMISSIONS

Operation of the Master Plan would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment) and mobile sources (i.e., vehicle trips to and from the Plan Area). As shown in Table 12, the net increase between Master Plan operational emissions and baseline operational emissions would not exceed Air District criteria pollutant thresholds. Operational impacts would be less than significant.

Table 12 Estimated Master Plan Operational Emissions

Sources	Average Daily Emissions (pounds per day)					
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Phase I						
Mobile	12	10	106	34	9	<1
Area	7	<1	7	<1	<1	<1
Total Operational Emissions Phase I	19	10	113	34	9	<1
Construction Phase II	2	6	9	<1	<1	<1

Sources	Average Daily Emissions (pounds per day)					
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Total Maximum Overlap Daily Operational Emissions	**21**	**16**	**122**	**35**	**9**	**<1**
Phase II						
Mobile	3	3	28	9	2	<1
Area	1	<1	2	<1	<1	<1
Total Operational Emissions Phase II	4	3	30	9	2	<1
Construction Phase III	2	7	11	1	<1	<1
Operational Emissions Phase I	19	10	113	34	9	<1
Total Maximum Overlap Daily Operational Emissions	**24**	**20**	**154**	**44**	**11**	**<1**
Phase III						
Mobile	5	4	43	14	4	<1
Area	2	<1	3	<1	<1	<1
Operational Emissions Phase I	19	10	113	34	9	<1
Operational Emissions Phase II	4	3	30	9	2	<1
Total Maximum Daily Operational Emissions	30	17	189	57	15	1
Existing Emissions	22	15	147	37	10	<1
Net Increase Operational Emissions	**8**	**2**	**42**	**20**	**5**	**<1**
Air District Thresholds (average daily emissions)	54	54	N/A	82	54	N/A
Threshold Exceeded?	**No**	**No**	**N/A**	**No**	**No**	**N/A**
Annual Emissions (tons per year)						
Phase I						
Mobile	2	2	19	6	2	<1
Area	1	<1	1	<1	<1	<1
Operational Emissions Phase I	3	2	21	6	2	<1
Construction Phase II	<1	1	2	<1	<1	<1
Total Maximum Overlap Daily Operational Emissions	3	3	23	6	2	<1
Phase II						
Mobile	1	<1	5	2	<1	<1
Area	<1	<1	<1	<1	<1	<1
Operational Emissions Phase II	1	<1	5	2	<1	<1
Construction Phase III	<1	1	2	<1	<1	<1
Operational Emissions Phase I	3	2	21	6	2	<1
Total Maximum Overlap Daily Operational Emissions	4	3	28	8	2	<1

Sources	Average Daily Emissions (pounds per day)					
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Phase III						
Mobile	1	1	8	3	1	<1
Area	<1	<1	<1	<1	<1	<1
Operational Emissions Phase I	3	2	21	6	2	<1
Operational Emissions Phase II	1	<1	5	2	<1	<1
Total Maximum Daily Operational Emissions	5	3	34	11	3	<1
Existing Emissions	4	3	27	7	2	<1
Net Increase Operational Emissions	**1**	**<1**	**7**	**4**	**1**	**<1**
Air District Thresholds	10	10	N/A	15	10	N/A
Threshold Exceeded?	**No**	**No**	**N/A**	**No**	**No**	**N/A**

See Table 2.5, Operations Emissions by Sector, Unmitigated and Table 2.2, Construction Emissions by Year, Unmitigated. CalEEMod worksheets in Appendix A.

Notes: All numbers have been rounded to the nearest tenth. Emissions presented are the highest of the winter and summer modeled emissions.

N/A = not applicable; no Air District threshold for CO or SO_X,

c. Would the Master Plan expose sensitive receptors to substantial pollutant concentrations?

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with a margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14, the elderly (over the age of 65), people engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. According to the Air District, sensitive receptors include children, the elderly, and those with preexisting serious health problems. Land uses where sensitive receptors are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers and preschools, hospices, dormitories, prisons, nursing homes, hospitals, and residential communities (Air District 2023b). Sensitive receptor land uses nearest to the Plan Area includes the Greendell School daycare and Athena Academy east of the Plan Area, The Frog Pond Day Care Palo Alto north of the Plan Area, and single-family residences east, north, west and south of the Plan Area.

CARBON MONOXIDE EMISSIONS

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2024).

Air District recommends comparing project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of carbon monoxide concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. The Master Plan would result in a less than significant impact to localized carbon monoxide concentrations if:

1. The Master Plan is consistent with an applicable congestion management program for designated roads or highways, regional transportation plan, and local congestion management agency plans
2. The Master Plan would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The Master Plan traffic would not increase traffic volumes at the affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage).

The Master Plan would generate 2,882 net daily vehicle trips. The City of Palo Alto's 2016 ADT Counts indicate the existing traffic volume along Middlefield Road is approximately 14,578 vehicles per day (City of Palo Alto 2016b). Therefore, the Master Plan would not increase vehicle traffic at any intersections above the screening thresholds listed above and the impact of localized carbon monoxide emissions would not be significant.

TOXIC AIR CONTAINMENTS

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the Master Plan's potential to result in impacts related to TAC emissions during construction and operation.

CONSTRUCTION

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following construction HRA evaluates the potential health risk to off-site receptors due to construction of the Master Plan. Results of the analysis were compared to Air District thresholds for a cancer risk threshold of 10 in a million, a chronic Hazard Index significance threshold of 1.0, and ambient $PM_{2.5}$ concentration increase greater than 0.3 µg/m^3 annual average. Neither DPM nor $PM_{2.5}$ is associated with acute health risks (OEHHA 2025); therefore, acute risk was not evaluated.

The MEIR is the modeled receptor experiencing the highest incremental excess cancer risk under the total exposure duration. The air dispersion and risk analysis identified students at the Grendell School daycare, located immediately east of the Plan Area to be the MEIR. It is assumed the MEIR would additionally live at the residents immediately east of the Plan Area. As shown in Table 13, at the MEIR, the chronic hazard index is less than 1 and the annual $PM_{2.5}$ would not exceed the 0.3 µg/m³ Air District threshold; however, the cancer risk per one million would exceed Air District's 10 in one million cancer risk threshold. Therefore, health risk to

nearby residents due to construction of the Master Plan would be potentially significant and Mitigation Measure AQ-1 is required.

Table 13 Health Risks Associated with Unmitigated Construction Activity

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 annual average
Maximally Exposed Individual Receptor (MEIR)	12.5	0.12	0.12
Air District Significance Threshold	>10	>1	0.30
Threshold Exceeded?	Yes	No	No

µg/m^3 = micrograms per cubic meter; Air District = Bay Area Air Quality Management District

[1] Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

For model outputs, see Appendix B.

Construction-related health risk, combined with health risk from existing major roadways and stationary sources within 1,000 feet of the MEIR, is summarized in Table 14. As shown in Table 14, cumulative sources would not exceed Air District's thresholds. Therefore, the health risk to nearby residents due to cumulative impacts would be less than significant.

Table 14 Cumulative Health Risks Associated with Construction Activity at MEIR

Source	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 Annual Average
Maximally Exposed Individual			
Project Construction	12.47	0.12	0.12
Roadways[2]	6.81	0.04	0.15
Palo Alto Arco (Facility ID 200361)	0.21	--	--
Cumulative Total	**19.49**	**0.16**	**0.27**
Air District Significance Threshold	**>100**	**>10**	**>0.8**
Threshold Exceeded?	**No**	**No**	**No**

[1]Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2]Based on raster data for roadway provided by Air District (Air District 2024).

For model outputs, see Appendix B.

Table 15 summarizes the health risk associated with existing major roadways and stationary sources located within 1,000 feet of two residential receptors at 4185 Bryon Street and 639 Keats Court. As shown in Table 15, cumulative sources would not exceed Air District's thresholds. Therefore, the health risk to nearby residents due to cumulative impacts would be less than significant.

Table 15 Cumulative Health Risks Associated with Construction Activity at Cumulative Receptors

Source	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 Annual Average
Cumulative Receptor #1 (4185 Bryon Street)			
Project Construction	0.83	0.01	<0.01
Roadways[2]	12.47	0.04	0.26
Stationary Sources	22.33	--	--
Cumulative Total	35.63	0.05	0.26
Cumulative Receptor #2 (639 Keats Court)			
Project Construction	1.92	0.02	<0.01
Roadways[2]	22.86	0.08	0.46
Stationary Sources	0.98	--	--
Cumulative Total	25.76	0.10	0.46
Air District Significance Threshold	**>100**	**>10**	**>0.8**
Threshold Exceeded?	**No**	**No**	**No**

[1]Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

[2]Based on raster data for roadway provided by Air District (Air District 2024).

For model outputs, see Appendix B.

ASBESTOS

Asbestos is a mineral fiber that occurs in rock and soil, and exposure to asbestos increases risk of developing lung disease. Asbestos fibers may be released into the air by the disturbance of asbestos-containing material during product use, demolition work, building or home maintenance, repair, and remodeling. Projects that have the potential to disturb asbestos (from soil or building material) must comply with all the requirements of Air District Regulation 11, Rule 2, Air District Regulation 11, Rule 2 is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule requires a lead agency and its contractors to notify Air District of any regulated renovation or demolition activity. This notification includes a description of structures and methods utilized to determine whether asbestos-containing materials are potentially present. All asbestos-containing material found on the site must be removed prior to demolition or renovation activity in accordance with Air District Regulation 11, Rule 2, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos (Air District 2023b). The Master Plan would involve the demolition of approximately 149,000 square feet of building material which could contain asbestos. Therefore, impacts would be less than significant with compliance with the regulatory strategies provided by Air District.

OPERATION

CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). CARB guidelines recommend siting distances both for the development of sensitive land uses in proximity to TAC sources and for the addition of new TAC sources in proximity to existing sensitive land uses. Recreational land uses are not considered land uses that generate substantial TAC emissions based on reviewing the air toxic sources listed in CARB's guidelines. The expected hazardous TACs generated on site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the proposed land uses would be below thresholds warranting further study under the California Accidental Release Program. Therefore, the Master Plan would not expose sensitive receptors to substantial operational TAC pollutant concentrations and impacts would be less than significant.

MITIGATION MEASURE

AQ-1 **Construction Emissions Reduction.** Prior to construction activity and issuance of building permits, the property owner or their designee shall ensure that the following specifications are detailed in the building plan, and any contractor agreements and ensure that they be implemented during construction:

- All mobile off-road equipment (wheeled or tracked) over 25 horsepower during Phase I, Phase II, and Phase III of the building construction sub-phase shall meet the USEPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 Final standards. Construction equipment under 25 horsepower during those phases would be equipped with Level 3 diesel particulate matter Filters.
- All mobile off-road equipment (wheeled or tracked) over 25 horsepower during Phase II demolition phase shall meet the USEPA Tier 4 final standards. Tier 4 certification can be for the original equipment or equipment that is retrofitted to meet the Tier 4 Final standards.

SIGNIFICANCE AFTER MITIGATION

DPM and $PM_{2.5}$ construction emissions after implementation of Mitigation Measures AQ-1 were estimated using CalEEMod. Table 16 shows the health risks associated with the Master Plan's construction activity after incorporation of Tier 4 engines and Level 3 diesel particulate filters on-site construction equipment pursuant to Mitigation Measure AQ-1. As shown in Table 16, the MEIR would not exceed Air District's thresholds. Therefore, construction impacts to health risk would be less than significant with mitigation.

Table 16 Health Risks Associated with Construction Activity After Mitigation

Scenario	Excess Cancer Risk (per million)	Chronic Health Risk[1]	$PM_{2.5}$ µg/m^3 Annual Average
Maximally Exposed Individual Receptor (MEIR)	5.99	0.10	0.11
Air District Significance Threshold	>10	>1	>0.3
Threshold Exceeded?	**No**	**No**	**No**

[1]Noncancer health impacts are determined by dividing the airborne concentration at the receptor by the appropriate Reference Exposure Level (REL) for that substance. A REL is defined as the concentration at which no adverse noncancer health effects are anticipated. Because noncancer health impacts are assessed as the ratio of airborne concentration versus the REL, the resulting hazard index is unitless.

For model outputs, see Appendix B.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the Master Plan result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Table 5-4 in the Air District's 2022 CEQA Guidelines provides odor screening distances for land uses that have the potential to generate substantial odor complaints. The uses in the table include wastewater treatment plants, landfills or transfer stations, refineries, composting facilities, confined animal facilities, food manufacturing, smelting plants, and chemical plants (Air District 2023b). The Master Plan involves recreational uses. None of the uses identified in the table would occur with the Master Plan. The Master Plan would not generate objectionable odors affecting a substantial number of people during operation.

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust and during idling. However, these odors would be temporary and would cease upon completion. Overall, the Master Plan would not generate objectionable odors affecting a substantial number of people. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project: have any of the following impacts:				
a. 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?	☐	☐	■	☐
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?	☐	☐	■	☐
b. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
c. 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?	☐	☐	■	☐
d. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	■	☐
e. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

SETTING

The Plan Area is developed with the Cubberley Community Center. Mature trees are distributed throughout the Plan Area, with notable concentrations in the central outdoor plaza and along

the southern and western edges. Several of these trees are protected under the City's tree ordinance and contribute to the site's landscaping along Middlefield Road.

FEDERAL REGULATIONS

ENDANGERED SPECIES ACT

Under the Federal Endangered Species Act (FESA), authorization is required to "take" a listed species. Take is defined under FESA Section 3 as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Under federal regulation (50 CFR Sections 17.3, 222.102); "harm" is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Critical habitat is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. FESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat.

Section 7(a)(2) of FESA and its implementing regulations require federal agencies to consult with USFWS or National Marine Fisheries Service (NMFS) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under FESA Section 10(a). Section 10(a) allows USFWS to permit the incidental take of listed species if such take is accompanied by an HCP that includes components to minimize and mitigate impacts associated with the take.

The USFWS and NMFS share responsibility and regulatory authority for implementing the FESA (7 USC Section 136, 16 USC Section 1531 et seq.).

MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) authorizes the Secretary of the Interior to regulate the taking of migratory birds. The act provides that it is unlawful, except as permitted by regulations, "to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, […] any migratory bird, or any part, nest, or egg of any such bird" (16 USC Section 703[a]). The Bald and Golden Eagle Protection Act (BGEPA) is the primary law protecting eagles, including individuals and their nests and eggs. The USFWS implements the MBTA (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). Under the Act's Eagle Permit Rule (50 CFR 22.26), USFWS may issue permits to authorize limited, non-purposeful take of bald eagles and golden eagles.

CLEAN WATER ACT

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE), with EPA oversight, has authority to regulate activities that result in discharge of dredged or fill material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any discharge of dredged or fill material into jurisdictional wetlands or other jurisdictional "waters of the United States" would require a Section 404 permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetlands is met by compensatory mitigation; in general, the type and location options for compensatory mitigation should comply with the hierarchy established by the Corp/EPA 2008 Mitigation Rule (in descending order): (1) mitigation banks; (2) in-lieu fee programs; and (3) permittee-responsible compensatory mitigation. Also, in accordance with Section 401 of the Clean Water Act, applicants for a Section 404 permit must obtain water quality certification from the appropriate RWQCB.

The USACE, RWQCB, and CDFW typically take jurisdiction over wetlands that exhibit three parameters: suitable wetland hydrology, hydric soils, and hydrophytic vegetation. The RWQCB will also consider features with saturated, anaerobic conditions wetlands.

STATE REGULATIONS

ENDANGERED SPECIES ACT

The California Endangered Species Act (CESA; Fish and Game Code Section 2050 et. seq.) prohibits take of State-listed threatened and endangered species without a CDFW incidental take permit. Take under CESA is restricted to direct harm of a listed species and does not prohibit indirect harm by way of habitat modification.

Protection of fully protected species is described in Fish and Game Code Sections 3511, 4700, 5050 and 5515. These statutes prohibit taking or possession of fully protected species. Incidental take of fully protected species may be authorized under an approved NCCP.

CALIFORNIA FISH AND GAME CODE SECTIONS 3503, 3503.5 AND 3511

California Fish and Game Code (CFGC) sections 3503, 3503.5 and 3511 describe unlawful take, possession, or destruction of birds, nests and eggs. Fully protected birds (CFGC Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs.

NATIVE PLANT PROTECTION ACT

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of

the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

SECTION 1600 ET SEQ. OF THE CALIFORNIA FISH AND GAME CODE

Section 1600 et seq. of the CFGC prohibits, without prior notification to CDFW, the substantial diversion or obstruction of the natural flow of, or substantial change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. In order for these activities to occur, the CDFW must receive written notification regarding the activity in the manner prescribed by the department and may require a lake or streambed alteration agreement. Lakes, ponds, perennial and intermittent streams and associated riparian vegetation, when present, are subject to this regulation.

NATURAL COMMUNITY CONSERVATION PLANNING ACT

The Natural Communities Conservation Planning (NCCP) Act was established by the California Legislature, is directed by the CDFW, and is implemented by the state, as well as public and private partnerships as a means to protect habitat in California. The NCCP Act takes a regional approach to preserving habitat. An NCCP identifies and provides for the regional protection of plants, animals and their habitats, while allowing compatible and appropriate economic activity. Once an NCCP has been approved, CDFW may provide take authorization for all covered species, including fully protected species, Section 2835 of the CFGC.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The State Water Resources Control Board (SWRCB) and each of nine local Regional Water Quality Control Boards (RWQCB) has jurisdiction over “waters of the State” pursuant to the Porter-Cologne Water Quality Control Act which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The local RWQCB (the Central Coast RWQCB for the AMBAG region) implements this general order for isolated waters not subject to federal jurisdiction and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the CWA for waters subject to federal jurisdiction.

LOCAL AND REGIONAL REGULATIONS

SANTA CLARA VALLEY HABITAT PLAN

The Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Habitat Plan) covers an area of 519,506 acres, or approximately 62 percent of Santa Clara County. It was developed and adopted through a partnership between Santa Clara County, the Cities of San José, Morgan

Hill, and Gilroy, Santa Clara Valley Water District (SCVWD), Santa Clara Valley Transportation Authority (VTA), US Fish and Wildlife Service (USFWS), and CDFW. The Habitat Plan is intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in approximately 500,000 acres of southern Santa Clara County. The Santa Clara Valley Habitat Agency is responsible for implementing the plan.

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to biological resources and apply to the proposed project (City of Palo Alto 2017a):

Goal N-1: Protect, conserve and enhance Palo Alto's citywide system of open space, including connected and accessible natural and urban habitats, ecosystems and natural resources, providing a source of public health, natural beauty and enjoyment for Palo Alto residents.

Policy N-1.1 Preserve, protect and enhance public and private open space and ecosystems of Palo Alto from the foothills to the Baylands. Respect the role that natural and landscaped areas within the urbanized part of the city play in a resilient ecological continuum, as illustrated on Map N-1.

Policy N-1.2 Maintain a network of parks and urban forest from the urban center to the foothills and Baylands that provide ecological benefits and access to nature for all residents.

Policy N-1.3 Encourage the management of private open space areas, including agricultural land, golf courses, private residential yards, and other land that provides habitat for wildlife in a manner that protects and enhances habitat and reinforces natural wildlife corridors, consistent with the Parks, Trails, Open Space and Recreation Master Plan and UFMP, as periodically amended.

Policy N-1.4 Protect special-status species and plant communities, including those listed by State and federal agencies and recognized organizations from the impacts of development and incompatible activities.

Policy N-1.5 Preserve and protect the Bay, marshlands, salt ponds, sloughs, creeks, and other natural water or wetland areas as open space, functioning habitats, and elements of a larger, interconnected wildlife corridor, consistent with the Baylands Master Plan, as periodically amended, which is incorporated here by reference.

Policy N-1.7 Carefully manage access and recreational use of environmentally sensitive areas, including the Baylands, foothills and riparian corridors, in order to protect habitats and wildlife from the impacts of humans and domesticated animals.

Policy N-1.8 Minimize impacts of any new development on the character of public open space and the natural ecology of the hillsides.

Policy N-1.13 Evaluate and mitigate the construction impacts associated with park and recreational facility creation and expansion.

According to Figure 4.3-2, Vegetation and Habitat Types, of the 2030 Comprehensive Plan EIR, the Plan Area is an area categorized as "urban forest." Policies N-2.1-N-2.14 of the 2030 Comprehensive Plan Natural Resources Element (listed above in Section 4.1.1(a)) support the City's goal to ensure a thriving urban forest that provides public health, ecological, economic, and aesthetic benefits for Palo Alto. Policies applicable to the project include:

Policy N-2.1: Recognize the importance of the urban forest as a vital part of the city's natural and green infrastructure network that contributes to public health, resiliency, habitat values, appreciation of natural systems and an attractive visual character which must be protected and enhanced.

Policy N-2.3: Enhance the ecological resilience of the urban forest by increasing and diversifying native species in the public right-of-way, protecting the health of soils and understory vegetation, encouraging property owners to do the same and discouraging the planting of invasive species.

Policy N-2.4: Protect soils in both urban and natural areas as the foundation of a healthy urban forest. Recognize that healthy soils are necessary to filter air and water, sustain plants and animals and support buildings and infrastructure.

Policy N-2.5: Enhance tree health and the appearance of streets and other public spaces through regular maintenance as well as tree and landscape planting and care of the existing canopy.

Policy N-2.6: Improve the overall distribution of citywide canopy cover, so that neighborhoods in all areas of Palo Alto enjoy the benefits of a healthy urban canopy.

Policy N-2.7: Strive toward the aspirational, long-term goal of achieving a 50 percent tree canopy cover across the city.

Policy N-2.8: Require new commercial, multi-unit and single-family housing projects to provide street trees and related irrigation systems.

Policy N-2.9: Minimize removal of, and damage to, trees due to construction-related activities such as trenching, excavation, soil compacting and release of toxins.

Policy N-2.10: Preserve and protect Regulated Trees, such as native oaks and other significant trees, on public and private property, including landscape trees approved as part of a development review process and consider strategies for expanding tree protection in Palo Alto.

PALO ALTO MUNICIPAL CODE

The Palo Alto community has long valued the environmental, aesthetic, and functional benefits of trees as recognized by the PAMC Chapter 8.10 (Tree Ordinance) and Palo Alto's status as

"Tree City USA." Chapter 8.10 regulates the preservation, removal, and maintenance of trees on public and private property to protect the urban forest. It also establishes procedures for designating heritage trees and criteria for tree removal.

The ordinance defines three categories of regulated trees: protected trees (PAMC Chapter 8.10), public trees (PAMC Chapter 8.04), and designated trees (PAMC Title 18), which the City may preserve through discretionary approvals.

- **Protected Trees.** Big Leaf Maple (*Acer macrophyllum),* California Incense Cedar (*Calocedrus decurrens*), Coast live oak (*Quercus agrifolia),* Blue Oak (*Quercus douglasii*), California Black Oak (*Quercus kelloggii*), and Valley oak (*Quercus lobata*) trees with a diameter of 11.5 inches or greater, Coast Redwood (*Sequoia sempervirens*) trees with a diameter of 18 inches or greater at standard height
- Any other tree species with a diameter of 15 inches or greater, excluding invasive species and high water use trees defined by the California Invasive Plant Council and the Water Use Classification of Landscape Species list (WUCOLS).
- Trees designated for carbon sequestration or environmental mitigation.
- Heritage trees designated by the City Council based on species quality, size, age, form, location, or historical significance.
- Replacement mitigation trees planted as a condition of development or tree removal approval.
- **Public Trees.** City-owned trees located in the public right-of-way or on public lands, including street trees. These trees primarily serve as visual resources and are discussed further in the Aesthetics Resources section.
- **Designated Trees.** Trees identified during discretionary design review by the Architecture Review Board that contribute to site character, screening, or community value. Trees with a "High" Suitability for Preservation rating may be designated for protection under PAMC Title 18, Chapter 18.76.020(d)(11). Designated Trees also include any tree planted as part of an approved development project.

The City requires a Tree Disclosure Statement (TDS) for all development applications, including discretionary and ministerial projects. The TDS identifies existing trees on site, trees overhanging from adjacent properties, and trees located in City easements or public lands. A Tree Preservation Report is required when development occurs within the dripline of a regulated tree.

The City's Tree and Landscape Technical Manual (City of Palo Alto 2001) provides standards for tree protection, including:

- Protecting trees during construction;
- Replacing removed trees;
- Maintaining protected trees, including pruning;
- Preparing tree reports;
- Identifying hazardous trees;
- Calculating canopy replacement to ensure no net loss of tree canopy.

IMPACT ANALYSIS

a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

b. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

The Plan Area does not contain riparian habitat or sensitive natural communities (U.S. Fish and Wildlife Service [USFWS] 2025a) and is not located in a known regional wildlife movement corridor or other sensitive biological area as indicated by the USFWS Critical Habitat portal (USFWS 2025b). Based on the developed nature of the area and lack of native or riparian habitat located on or around the Plan Area, no federal- or state-listed endangered, threatened, rare, or otherwise sensitive flora or fauna are anticipated to be located within the Plan Area.

The Plan Area is in an urbanized area of Palo Alto and is developed with the community center, surface parking lots, and perimeter landscaping trees. As shown on Figure 4.3-2, *Vegetation and Habitat Types*, of the 2030 Comprehensive Plan EIR, the Plan Area is categorized as "urban forest" (City of Palo Alto 2016a). This urban forest (a habitat type that covers most of Palo Alto east of Interstate 280, even sites completely devoid of trees) is comprised of "street trees, trees in parks, landscaping trees planted around public facilities, and trees on private property throughout the city." The urban forest, in locations with tree cover or significant vegetation, provides cover, forage, and habitat for common wildlife, such as nesting birds.

As described in the Setting section above, the Plan Area includes and is surrounded by many trees, including trees that are protected by City ordinance. Those trees are primarily interspersed between buildings within the site and along the northern and western perimeters of the Plan Area. These trees could contain bird nests and birds protected under the MBTA. Protected birds include all common songbirds, waterfowl, shorebirds, hawks, owls, eagles, ravens, crows, native doves and pigeons, swifts, martins, swallows, and others, including their body parts (feathers, plumes etc.), nests, and eggs. While the Master Plan recommends that the trees protected by City ordinance be preserved where possible, its implementation could result in the removal of at least some of the existing trees on the Plan Area. Moreover, demolition and construction activities could disturb nesting birds in preserved trees. Therefore, project implementation has the potential to result in direct and indirect impacts to nesting birds if they are nesting on the Plan Area or the immediate vicinity during construction activities. Direct impacts from construction activities include ground disturbance and removal of trees, which could contain bird nests. Indirect impacts include construction noise, lighting, and fugitive dust. However, the project would be required to incorporate the City's Standard Conditions of

Approval, which would ensure protection of nesting birds. The City's Standard Conditions of Approval include the following:

> **Nesting Bird Survey**. Vegetation or tree removal shall be prohibited during the general avian nesting season (February 1 – August 31), if feasible. If nesting season avoidance is not feasible, the applicant shall retain a qualified biologist, as approved by the City of Palo Alto, to conduct a preconstruction nesting bird survey to determine the presence/absence, location, and activity status of any active nests on or adjacent to the project site no more than 14 days prior to scheduled vegetation clearance and/or demolition activities. If nesting birds are found to be present, a suitable buffer (typically a minimum buffer of 50 feet for passerines and a minimum buffer of 250 feet for raptors) as determined appropriate by the biologist, shall be established around such active nests and no construction shall be allowed within the buffer areas until a qualified biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest). A report documenting any data recovered during monitoring shall be prepared by a qualified biologist and submitted to the Director of Planning prior to final planning inspection.

With the implementation of this Standard Condition of Approval, impacts to nesting birds would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

As described under threshold a, b, and d, the Plan Area does not contain riparian habitat or sensitive natural communities (USFWS 2025a) and is not located within a known regional wildlife movement corridor or any other sensitive biological area as indicated by the USFWS Critical Habitat portal or CDFW BIOS (USFWS 2025b; CDFW 2025). The National Wetlands Inventory (NWI) was reviewed to determine if any wetland and/or non-wetland waters had been previously documented and mapped on or near the proposed survey area (USFWS 2025a). No such features occur on or adjacent to the Plan Area. There is one potential jurisdictional water or wetland near the area: Adobe Creek, a riverine wetland resource, which is located approximately 700 feet west of the Plan Area. However, implementation of the Master Plan would not involve the direct removal, filling, hydrological interruption, or other disturbance to the bed, bank, channel, or adjacent upland area of Adobe Creek. No impact would occur.

NO IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or as defined by the City of Palo Alto's Tree Preservation Ordinance (Municipal Code Section 8.10)?

As described under thresholds a, b, and d, several of the existing trees on or near the Plan Area are protected by the Tree Preservation and Management Ordinance (PAMC Chapter 8.10). Those trees include protected trees within the Plan Area, primarily around the perimeters and clustered towards the center of the community center, and protected street trees along the edges of the Plan Area. Depending on the precise location and design of future buildings and

site amenities envisioned in the Master Plan, some of the protected trees may require removal during implementation. In the case of such removals, PAMC Title 18 requires that the applicant replace removed trees with trees of equal value in the same location, or, in circumstances where physical constraints make it impossible or undesirable to replace a tree, determine the value of the removed tree and use the sum of money to add trees and other landscaping as approved by the Director of the Public Works Department. Prior to removal of a protected tree, the applicant would also be required to obtain a Tree Removal Permit, which would ensure implementation of the PAMC's tree protection and replacement requirements.

In addition, demolition and construction activities associated with the Master Plan could occur within the tree protection zone of the trees that are retained. However, PAMC Section 8.10.070 requires compliance with all construction-phase tree-protection standards in the Tree and Landscape Technical Manual, including avoiding actions that could foreseeably damage or kill a protected tree (such as trenching, altering grade, paving, or excessive pruning) and implementing protective measures through all phases of construction. Furthermore, PAMC Section 8.10.080 requires that development approvals include conditions ensuring protection of public trees during construction and their ongoing maintenance thereafter. These provisions effectively require the preparation and implementation of a Tree Protection and Preservation Report by a certified arborist, installation of protective fencing, soil-compaction avoidance measures, and appropriate maintenance consistent with the Manual.

Therefore, the Master Plan has the potential to result in damage to protected trees and would be subject to the protection regulations in the Tree Technical Manual. The Manual requires that a Tree Protection and Preservation Report be completed by a certified arborist and approved by the City's Public Works Department Urban Forestry Division prior to approval of planning or building permits for the project. The Manual also requires that the Plan identify construction guidelines to be followed through all phases of construction, including preconstruction measures (such as protective fencing), during-construction measures (such as avoidance of soil compaction), and maintenance activities (such as maintaining normal irrigation).

Because tree protection, avoidance of harm to protected trees, and replacement of removed protected trees are required under PAMC Sections 8.10.070, 8.10.080, and Title 18, compliance with these existing regulations would avoid or minimize impacts to protected trees. Therefore, the proposed project would not conflict with local policies or ordinance protecting biological resources and impacts related to protected trees would be less than significant.

LESS THAN SIGNIFICANT IMPACT

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

According to the Natural Environment Element in the City's Comprehensive Plan (City of Palo Alto 2017a), the Plan Area is not located in an area covered by an approved habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.

NO IMPACT

5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	■	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

LOCAL REGULATIONS

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to cultural resources and apply to the proposed Plan (City of Palo Alto 2017a):

Policy L-7.1 Encourage public and private upkeep and preservation of resources that have historic merit, including residences listed in the City's Historic Resource Inventory, the California Register of Historical Resources, or the National Register of Historic Places.

Policy L-7.15 Protect Palo Alto's archaeological resources, including natural land formations, sacred sites, the historical landscape, historic habitats and remains of settlements here before the founding of Palo Alto in the 19th century.

Policy L-7.18 Require project proponents to meet State codes and regulations regarding the identification and protection of archaeological and paleontological deposits, and unique geologic features.

MUNICIPAL CODE

Local landmarks in Palo Alto are listed in the Palo Alto Historic Inventory, the official list of sites, structures and districts designated by the City Council as possessing significant historical and/or architectural value. The Criteria for Designation (Municipal Code Section 16.49.020) are listed below:

a) The structure or site is identified with the lives of historic people or with important events in the city, state or nation;
b) The structure or is particularly representative of an architectural style or way of life important to the city, state or nation;
c) The structure or site is an example of a type of building which was once common, but is now rare;
d) The structure or site is connected with a business or use which was once common, but is now rare;
e) The architect or building was important; or
f) The structure or site contains elements demonstrating outstanding attention to architectural design, detail, materials or craftsmanship (Palo Alto Municipal Code Section 16.49.040).

Properties listed in the Palo Alto Historic Inventory are classified under the following Historic Categories:

- **Category 1**. An "Exceptional Building" of pre-eminent national or state importance. These buildings are meritorious works of the best architects, outstanding examples of a specific architectural style, or illustrate stylistic development of architecture in the United States.
- **Category 2**. A "Major Building" of regional importance. These buildings are meritorious works of the best architects, outstanding examples of an architectural style, or illustrate stylistic development of architecture in the state or region.
- **Category 3 or 4.** A "Contributing Building" is a good local example of an architectural style and relates to the character of a neighborhood grouping in scale, materials, proportion or other factors (Palo Alto Municipal Code Section 16.49.020).

STATE REGULATIONS

The California Environmental Quality Act (CEQA) requires a lead agency to determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR), a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;

3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b]).

PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

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

IMPACT ANALYSIS

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

To evaluate whether implementation of the proposed Master Plan would result in impacts to historical resources, Rincon Consultants prepared a Cultural Resources Technical Report (Report) in November 2025 (Appendix C). During preparation of the Report, architectural historians and archaeologists evaluated the Plan Area. The property was recorded and evaluated for historical and architectural significance on California DPR 523 series forms. The Report concludes that the property that comprises the Plan Area is ineligible for listing in the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), or as a City of Palo Alto Landmark due to a lack of historical and/or architectural significance.

The Report also evaluates the potential impacts of the proposed development on the Greenmeadow Historic District, located south and west of the Plan Area. The District, a neighborhood of Joseph Eichler residences, is listed on both the NRHP and CRHR. The project would not directly alter the Greenmeadow Historic District, and would result in a minimal change to its surroundings through the construction of new buildings. However, the proposed buildings would not abut the Plan Area, would be slightly taller in height than the historic district contributors, be concentrated at the north and east ends of the Plan Area at a considerable distance from the majority of district contributors. As a result, these alterations would not be sufficient to negatively affect the setting of the historic district such that it would be materially impaired. Therefore, the Report concludes that implementation of the Master Plan would not result in a significant impact to the Greenmeadow Historic District.

Overall, the Cultural Resources Technical Report concludes that the existing buildings within the Plan Area are not historical resources for the purpose of CEQA and that the Master Plan would not result in significant impacts to the nearby Historic District. Therefore, there would be no impact to historical resources.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The Plan Area is located in an urbanized area of Palo Alto and is developed with the Cubberley Community Center. A California Historical Resource Information System records search conducted by the Northwest Information Center with a 0.5-mile radius surrounding the Plan Area did not indicate the presence of cultural resources within or directly adjacent to the Plan Area. However, four known prehistoric sites are located within 0.5 miles of the Plan Area. The results of the geoarchaeological review indicate the likelihood of encountering buried resources is low to moderate and the Plan Area has been previously disturbed due to construction of buildings and structures, paving of parking lots, and grading for athletic fields.

The lack of surface evidence of archaeological materials does not preclude their subsurface existence. However, the absence of substantial prehistoric or historic-period archaeological remains within the immediate vicinity, along with the disturbed soils not likely to contain buried resources, and the level of disturbance in the Plan Area suggests there is a low potential for encountering intact subsurface archaeological deposits. Additionally, the project would be required to incorporate the City's Standard Conditions of Approval, which would ensure protection of archaeological, paleontological, and tribal cultural resources. The City's Standard Conditions of Approval include the following:

> **Unanticipated discovery of buried archaeological, paleontological, and tribal cultural resources:** No known archeological or paleontological resources are present on or within the immediate vicinity of the site. However, in the unlikely event that an archeological resource or paleontological resource is unearthed during ground disturbing activities, work in the immediate area must be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is Native American in origin, then a Native American representative must also be contacted to participate in the evaluation of the find.
>
> The qualified archaeologist, and, if applicable, the Native American representative, shall examine the find and make recommendations regarding additional work necessary to evaluate the significance of the find and the appropriate treatment of the resource. Recommendations could include, but are not limited to, invasive or non-invasive testing, sampling, laboratory analysis, preservation in place, or data recovery. A report of findings documenting any data recovered during monitoring shall be prepared by a qualified archaeologist and submitted to the Director of Planning prior to final planning inspection.

Prior to commencement of any project-related construction activities, a qualified Archaeologist hired by the applicant shall provide a worker environmental awareness training to all site personnel that addresses cultural and tribal cultural resources. The training shall discuss the appearance of resources that may be encountered during construction as well as the procedures and notification process in the event of discovery.

Discovery of human remains: Pursuant to Section 7050.5 of the Health and Safety Code, and Section 5097.94 of the Public Resources Code of the State of California in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission (NAHC) who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the landowner shall reinter the human remains, and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. If the Director of Planning, in consultation with the archaeologist and Native American representative, finds that the archaeological find is not a significant resource, work would resume only after the submittal of a preliminary archaeological report and after provisions for reburial and ongoing monitoring are accepted by the Director of Planning.

With the implementation of the Standard Conditions of Approval, impacts to unrecorded archaeological resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains within the Project Area or the project vicinity. The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. Additionally, the City of Palo Alto's Standard Conditions of Approval listed under Threshold Question b would be applicable. With adherence to existing regulations and the City's Standard Conditions of Approval, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	■

SETTING

In 2023, California is one of the lowest per capita energy users in the United States, ranked 50th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2025a). Electricity is primarily consumed by the built environment for lighting, appliances, and heating and cooling systems. Most of California's electricity is generated in state with approximately 22 percent imported from the Northwest and Southwest in 2024; however, the state relies on out-of-state natural gas imports for nearly 90 percent of its supply (California Energy Commission [CEC] 2025a and 2025b). In addition, approximately 59.7 percent of California's electricity supply in 2024 came from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2025a). In 2022, Senate Bill 1020 (SB 1020) creates clean electricity targets for eligible renewable energy resources and zero-carbon resources to supply 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. Electricity would be provided to the Master Plan by the City of Palo Alto Utilities (CPAU).

Table 17 summarizes the electricity for Santa Clara County, in which the Plan Area would be located, and for CPAU as compared to statewide consumption.

Table 17 2024 Electricity Consumption

Energy Type	Santa Clara County	CPAU	California	Proportion CPAU Consumption	Proportion of County Consumption[1]
Electricity (GWh)	17,794	892	282,783	0.3%	6.3%

GWh = gigawatt-hours

[1] For reference, the population of Santa Clara County (1,921,406 persons) is approximately five percent of the population of California (39,420,663 persons) (California Department of Finance 2024).

Source: CEC 2025c

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being the 8th largest petroleum-producing state in the nation in 2024 (United States Energy Information Administration 2025b). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with 13,423 million gallons sold in 2024. Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 2,212 million gallons sold in 2024 (CEC 2025a). Table 18 summarizes the petroleum fuel consumption for Santa Clara County, in which the Plan Area would be located, as compared to statewide consumption.

Table 18 2024 Annual Gasoline and Diesel Consumption

Fuel Type	Santa Clara County (million gallons)	California (million gallons)	Proportion of Statewide Consumption[1]
Gasoline	547	13,423	4%
Diesel	54	2,212	2%

[1] For reference, the population of Santa Clara County (1,921,406 persons) is approximately five percent of the population of California (39,420,663 persons) (California Department of Finance 2025).

Source: CEC 2024

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the Master Plan's energy consumption are discussed in detail in Section 3, *Air Quality,* and Section 6, *Energy,* respectively.

a. Would the Master Plan result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Master Plan construction or operation?

CONSTRUCTION ENERGY DEMAND

During construction of the buildings under the Master Plan, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment within the Plan Area, construction worker travel to and from the Plan Area, and vehicles used to deliver materials to the Plan Area. The manufacturing of construction materials would also involve energy use. Due to the large number of materials and manufacturers involved in the production of construction materials, including manufacturers in other states and countries, upstream energy use cannot be estimated reasonably or accurately. However, it is reasonable to assume that manufacturers of building materials such as concrete, steel, lumber, or other building materials would employ energy conservation practices in the interest of minimizing the cost of doing business. Consistent with CEQA Guidelines Section 15145, this analysis does not evaluate upstream energy use as it is too speculative.

Implementation of the Master Plan would require demolition, grading, pavement and asphalt installation, building construction, building renovations, and architectural coating. The total consumption of gasoline and diesel fuel during construction of the new buildings under the Master Plan was estimated using the assumptions and factors from the CalEEMod run (Appendix A).

Table 19 presents the estimated construction phase energy consumption. Construction equipment and vendor/haul trips would consume approximately 174,498 gallons of diesel fuel during construction, while worker trips would consume approximately 59,426 gallons of gasoline during construction. According to the California Annual Retail Fuel Outlet Report Results (CEC-A15), retail diesel sales in Santa Clara County totaled approximately 54 million gallons, while retail gasoline sales totaled approximately 547 million gallons in 2024 (CEC 2024). Therefore, fuel consumption associated with construction would account for less than one percent of annual retail diesel sales and less than 0.1 percent of annual retail gasoline sales in Santa Clara County.

Table 19 Construction Fuel Consumption

Fuel Type[1]	Gallons
Diesel Fuel (Construction Equipment)[1]	155,001
Diesel Fuel (Vendor/Haul Trips)[2]	19,498
Other Petroleum Fuel (Worker Trips)[3]	59,426
Total Diesel Consumption	**174,499**
Total Gasoline Consumption	**59,426**

It is reasonable to assume that contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to reduce construction costs. Implementation of the Master Plan would comply with the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation, which imposes limits on idling and restricts the use of older vehicles. This would reduce fuel consumption and lead to the use of fuel-efficient vehicles within the Plan Area. Construction equipment would be maintained to applicable standards, and construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. Therefore, the construction under the Master Plan would not involve the inefficient, wasteful, and unnecessary use of energy, and the construction-phase impact related to energy consumption would be less than significant.

OPERATIONAL ENERGY DEMAND

Operation of the Master Plan would contribute to regional energy demand by consuming electricity, gasoline and diesel fuels. Electricity would be used for heating and cooling systems, lighting, appliances, and water and wastewater conveyance, among other purposes. Gasoline and diesel consumption would be associated with vehicle trips generated by visitors and employees. Table 20 summarizes estimated operational energy consumption for the Master Plan. As shown therein, operation of the Master Plan would require approximately 463,782 gallons of gasoline and 71,006 gallons of diesel for transportation fuels, representing less than 0.1 percent of total gasoline consumption and less than one percent of total diesel

consumption in Santa Clara County in 2024. In addition, the project would require 5.27 GWh of electricity. Vehicle trips associated with future workers, customers, and deliveries would represent the greatest operational use of energy associated with the Master Plan.

Table 20 Estimated Project Annual Operational Energy Consumption

Source	Energy Consumption[1]	Energy Consumption[1]
Transportation Fuels		
Gasoline	463,782 gallons	50,917 MMBtu
Diesel	71,006 gallons	9,050 MMBtu
Electricity	5.27 GWh	17,996 MMBtu

MMBtu = million metric British thermal units; GWh = gigawatt-hours

[1] Energy consumption is converted to MMBtu for each source

See Appendix D for energy calculation sheets and Appendix A for CalEEMod output results for electricity consumption.

The Master Plan would comply with California Building Code (CBC) Title 24 standards, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation**.** California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. The 2025 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. In addition, the Master Plan would be required to comply with the applicable portions of the California Energy Code and California Green Building Standards Code (CALGreen Code), which establish planning and design standards for sustainable development, energy efficiency, water conservation, and material conservation. Furthermore, the Master Plan would reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by CPAU, have provided 100 percent carbon neutral electricity since 2013. Additionally, in 2017, Palo Alto began offsetting the greenhouse gas (GHG) emissions caused by natural gas use through the purchase of carbon offsets and became the first 100 percent carbon neutral utility in the world (CPAU 2018). By required compliance with applicable regulations and continued energy efficient programs implemented by CPAU, the Master Plan's potential impacts regarding wasteful or inefficient use of electricity would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the Master Plan conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

PALO ALTO SUSTAINABILITY AND CLIMATE ACTION PLAN

As further discussed in Section 8, *Greenhouse Gas Emissions*, the City of Palo Alto launched its 2022 Sustainability and Climate Action Plan (S/CAP) in June 2023. The Master Plan would result in a potentially significant impact if it would conflict with or obstruct the implementation of the S/CAP. Table 21 provides an evaluation of the Master Plan's consistency with applicable renewable energy and energy efficiency measures in the S/CAP.

Table 21 Project Consistency with S/CAP

Measure	Consistent?
E7. Use codes and ordinances - such as the energy reach code, green building ordinance, zoning code, or other mandates - to facilitate electrification in both existing buildings and new-construction projects where feasible.	**Consistent.** The Master Plan would replace all electrical systems above- and below-grade as part of the new construction buildings and renovation of Building I, Theatre and Pavilion. Additionally, the Master Plan would include all-electric facilities, maintenance, and operations equipment.
E8. Develop and implement an electric grid modernization plan to increase capacity and resilience.	**Consistent.** The Master Plan would replace the existing PV panels and would add a battery backup microgrid with microgrid controller to shift between normal and emergency modes. New buildings would either be equipped with PV panels or constructed to be PV-ready.
EV4. Facilitate the adoption of EVs, e-bikes and other light EVs.	**Consistent.** The Master Plan would install EV charging consistent with the California Building Code Chapter 11B and the 2025 CALGreen Standards for non-residential land uses.
M1. Implement transportation and land use infrastructure investments, programs, policies, and incentives to increase the mode share for active transportation (walking, biking) and transit for local work trips	**Consistent.** The Master Plan would be required to incorporate both short-term and long-term bicycle parking facilities on-site to comply with CALGreen standards. These features will be confirmed and integrated into the Master Plan once the design details are finalized.

Source: City of Palo Alto 2023

CITY OF PALO ALTO COMPREHENSIVE PLAN

Implementation of the Master Plan would result in a potentially significant impact if it would conflict with or obstruct the implementation of the Comprehensive Plan as it pertains to energy. Table 22 provides an evaluation of the Master Plan consistency with applicable renewable energy and energy efficiency measures in the Comprehensive Plan.

Table 22 Master Plan Consistency with 2030 Comprehensive Plan Energy-Related Policies

Measure	Consistent?
Policy L-1.2: Limit future urban development to currently developed lands within the urban service area. The boundary of the urban service area is otherwise known as the urban growth boundary. Retain undeveloped land west of Foothill Expressway and Junipero Serra as open space, with allowances made for very low-intensity development consistent with the open space character of the area. Retain undeveloped land northeast of Highway 101 as open space.	**Consistent.** Implementation of the Master Plan would intensify land use on a currently developed property within the urban service area.
Policy L-1.3: Infill development in the urban service area should be compatible with its surroundings and the overall scale and character of the city to ensure a compact, efficient development pattern.	**Consistent.** Buildout of the Master Plan would be infill development compatible with and overall scale and character of the city.

Measure	Consistent?
Policy L-1.12. Hold new development to the highest development standards in order to maintain Palo Alto's livability and achieve the highest quality development with the least impacts	**Consistent.** The Master Plan would comply with the Palo Alto Green Building Ordinance and applicable state and City regulations.
Policy T-1.17: Require new office, commercial and multi-family residential developments to provide improvements that improve bicycle and pedestrian connectivity as called for in the 2012 Palo Alto Bicycle + Pedestrian Transportation Plan	**Consistent.** The Master Plan would be required to incorporate both short-term and long-term bicycle parking facilities on-site to comply with CALGreen standards. These features will be confirmed and integrated into the Master Plan once the design details are finalized.
Policy N-7.4: Maximize the conservation and efficient use of energy in new and existing residences and other buildings in Palo Alto.	**Consistent.** The Master Plan would comply with the Palo Alto Green Building Ordinance and would replace all electrical systems above- and below-grade as part of the new construction buildings and renovation of Building I, Theatre and Pavilion.

Source: City of Palo Alto 2017

As shown in Table 21 and Table 22, the Master Plan would be consistent with the energy measures in the City of Palo Alto's S/CAP and 2030 Comprehensive Plan. Therefore, the Master Plan would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and no impact would occur.

NO IMPACT

7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	■
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	■	☐	☐
4. Landslides?	☐	☐	☐	■
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	■	☐	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	■	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

SETTING

The Plan Area is situated in the northernmost area of the Santa Clara Valley, between the Santa Cruz Mountains to the west and the San Francisco Bay and Diablo Range to the east in the Coast Ranges geomorphic province of California (California Geological Survey 2002). The Coast Ranges extend about 600 miles from the Oregon border to the Santa Ynez River in Santa Barbara County and are characterized by numerous north-south–trending peaks and valleys that range in elevation from approximately 500 feet above mean sea level to 7,581 feet above mean sea level (Norris and Webb 1990). The Coast Ranges are composed of a complex assemblage of geologic units, including Mesozoic metasedimentary rocks and ophiolite rocks of the Franciscan Assemblage, granitic and metamorphic rocks of the Mesozoic Salinian Block, and younger Cenozoic marine and nonmarine shale, sandstone, and conglomerate (Bartow and Nilsen 1990). A Geotechnical Investigation was completed for a portion of the Plan Area by Romig Engineers, Inc. (Romig Engineers Inc 2018; Appendix E). According to the report, the Plan Area is underlain by Holocene-age basin deposits. These deposits are generally expected to consist of firm to stiff, fine silty clay to clay with interbeds of medium dense sand at the edge of alluvial fans between floodplain deposits and soft Bay Mud. Near the project area, the Coast Ranges are transected by several major active or recently active faults.

FAULTING

The United States Geological Survey (USGS) defines active faults as those that have had surface displacement within the Holocene period (about the last 11,000 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are those that have had surface displacement during the last 1.6 million years. The San Andreas Fault system, including the Monte Vista-Shannon Fault, exists within the Santa Cruz mountains approximately 6.5 miles to the southwest. The Hayward and Calaveras Fault systems exist within the Diablo Range to the east. The northwest-trending San Andreas Fault approximately 7.3 miles southwest of the Plan Area (Helley et al. 1979).

SURFACE RUPTURE

Surface rupture is typically confined to areas immediately overlying or adjacent to active fault traces. Because no active or potentially active faults have been mapped within or immediately adjoining the Plan Area, and the nearest active fault, the San Andreas fault, is several miles to the southwest, the potential for surface fault rupture at the Plan Area is considered low. Past studies and available geologic mapping do not identify fault-related geomorphic features (e.g., scarps, sag ponds, offset drainages) within the relatively flat, developed terrain of the site.

GROUND SHAKING

Although the Plan Area is not located on a fault, strong ground shaking from regional seismic events is expected to be the primary seismic hazard at the site. Earthquakes along the San Andreas, Hayward, or Calaveras fault systems could generate substantial ground shaking in Palo

Alto. The Plan Area is underlain by Holocene basin deposits consisting mainly of firm to stiff silty clay and clay with interbedded sand lenses, which may be susceptible to amplified shaking or seismically induced settlement during a major earthquake.

LANDSLIDES

Landslides occur when the stability of a slope changes from a stable to an unstable condition. In Palo Alto, the most common types of landslides are rock fall, rockslide, debris slide, debris flows triggered by excessive rainfall, earth slide, debris flow, earth flow, and complex slides (San José 2011b). Most landslide activity has occurred in the Diablo Range on the east side of the City with lesser amounts in the Santa Teresa Hills and Santa Cruz Mountains to the southwest. According to the City's Landslide Risk Map, the Plan Area is not located in a designated Landslide Hazard Zone (City Palo Alto 2020).

LIQUEFACTION

Liquefaction is a result of seismic activity and is characterized as the transformation of loose, water saturated soils from a solid state to a liquid state after ground shaking. There are many variables that contribute to liquefaction, including the age of the soil, soil type, soil cohesion, soil density, and groundwater level. Soil susceptible to liquefaction includes loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. According to the Map S-3 of the Comprehensive Plan, the Plan Area is defined as having moderate liquefaction susceptibility (City of Palo Alto 2017a).

FEDERAL AND STATE REGULATIONS

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

Following the 1989 Loma Prieta earthquake, the Seismic Hazards Mapping Act (SHMA) was passed by the California legislature in 1990. The SHMA (Public Resources Code, Chapter 7.8, Section 2690-2699.6) directs the Department of Conservation, California Geological Survey to identify and map areas prone to liquefaction, earthquake-induced landslides and amplified ground shaking. It also requires agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the identified hazard is present and the inclusion of appropriate mitigation to reduce earthquake-related hazards.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act of 1990 was enacted, in part, to address seismic hazards not included in the Alquist-Priolo Act, including strong ground shaking, landslides, and liquefaction. Under this Act, the State Geologist is assigned the responsibility of identifying and mapping seismic hazards. CGS Special Publication 117, adopted in 1997 by the State Mining and Geology Board, constitutes guidelines for evaluating seismic hazards other than surface faulting, and for recommending mitigation measures as required by Public Resources Code Section 2695(a). In accordance with the mapping criteria, the CGS seismic hazard zone maps identifies areas with the potential for a ground shaking event corresponding to 10 percent probability of exceedance in 50 years.

The purpose of the Seismic Hazards Mapping Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Seismic Hazards Mapping Act requires site-specific geotechnical investigations prior to permitting most urban development projects in seismic hazard zones.

CALIFORNIA BUILDING CODE

The California Building Code (CBC), Title 24, Part 2, provides building codes and standards for the design and construction of structures in California. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of building and structures. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

The CBC is updated every three years by order of the legislature, with supplements published in intervening years. State Law mandates local government enforce the CBC. In addition, a city and/or county may establish more restrictive building standards reasonably necessary because of local climatic, geological, or topographical conditions.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

The federal government administers the National Pollutant Discharge Elimination System (NPDES) permit program, which regulates discharges into surface waters under the Clean Water Act (CWA). The primary regulatory control relevant to the protection of water quality is the NPDES permit administered by the State Water Resources Control Board, which establishes requirements prescribing the quality of point sources of discharge and water quality objectives. These objectives are established based on the designated beneficial uses (e.g. water supply, recreation, and habitat) for a particular surface waterbody. The NPDES permits are issued to point source dischargers of pollutants to surface waters pursuant to Water Code Chapter 5.5, which implements the federal CWA. Examples include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (State Water Resources Control, Title 23, Chapter 9, Section 2200). The Regional Water Quality Control Board (RWQCB) establishes and regulates discharge limits under the NPDES permits.

Construction projects which disturb one or more acres of soil or are part of a larger common plan of development that disturbs one or more acres of soil must obtain coverage under the statewide NPDES General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). To obtain coverage under the Construction General Permit, a project-specific Stormwater Pollution Prevention Plan (SWPPP) must be prepared. The SWPPP outlines Best Management Practices to reduce stormwater and

non-stormwater pollutant discharges, including erosion control, minimizing contact between construction materials and precipitation, and strategies to prevent equipment leakage or spills.

REGIONAL AND LOCAL REGULATIONS

SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD

The City of Palo Alto is under the jurisdiction of RWQCB Region 2, the San Francisco Bay Regional Water Quality Control Board (RWQCB). The San Francisco Bay RWQCB provides permits for projects that may affect surface waters and groundwater locally, and is responsible for preparing the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. The Basin Plan serves as the basis for the San Francisco Bay RWQCB's regulatory programs and incorporates an implementation plan for achieving water quality objectives.

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to geology and soils and apply to the proposed project (City of Palo Alto 2017a):

Goal S-2: Protection of life, ecosystems and property from natural hazards and disasters, including earthquake, landslide, flooding, and fire.

Policy S-2.1 Incorporate the City's Local Hazard Mitigation and Adaptation Plan (LHMP), as periodically adopted by the City Council and certified by the Federal Emergency Management Agency (FEMA), into the Safety Element. In the event of any conflict between the provisions of the LHMP and any other provision of the Safety Element, the LHMP shall control.

Policy S-2.2 Focus efforts to reduce exposure to natural hazards in areas of the city identified as vulnerable to the greatest risks, as shown on the maps in this Element.

Policy S-2.4 Expand citizen awareness of seismic and geologic hazards through public education and preparedness.

Policy S-2.5 Minimize exposure of people and structures to geologic hazards, including slope stability, subsidence and expansive soils, and to seismic hazards including ground shaking, fault rupture, liquefaction and landslides.

Policy S-2.6 Promote seismic rehabilitation and renovation of existing buildings, particularly those whose loss would have the greatest community impacts, using incentives as a way to ensure safe and structurally sound buildings.

Policy S-2.7 Encourage property owners, business owners and the PAUSD to evaluate their vulnerability to earthquake hazards and take appropriate action to minimize their risk.

CITY OF PALO ALTO MUNICIPAL CODE

PAMC Title 16 includes the current California Building, Plumbing, Mechanical, Electrical, Existing Building, and Historical Building Codes. Requirements for building safety and earthquake hazard reduction are also addressed in Chapter 16.40 (Unsafe Buildings) and Chapter 16.42 (Seismic Hazards Identification Program) of the Municipal Code. Requirements for grading, excavation, and erosion control are included in Chapter 16.28 (Excavations, Grading, and Fills).

PAMC Chapter 18.40.120 (Hazardous Conditions) in the City's Zoning Ordinance also contains provisions for permitting and soil/geotechnical evaluations in areas that have been identified as having moderate or high risk due to seismic or other geologic hazards. In such areas, the City may require detailed, site-specific geologic, soils, and engineering evaluations as part of the building permitting process and requirements would have to be satisfied prior to building construction.

IMPACT ANALYSIS

a1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Plan Area is not located within an identified earthquake fault zone as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map (California Department of Conservation 2024). No known fault lines are located on the site. The closest active fault is the San Andreas Fault which is located approximately 7.3 miles southwest of the Plan Area. Thus, the likelihood of surface rupture occurring from active faulting within or near the area is remote. No impact would occur.

NO IMPACT

a2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

As with any site in the Bay Area region, the Plan Area is susceptible to strong seismic ground shaking in the event of a major earthquake. Nearby active faults include the San Andreas Fault, the Monte Vista Fault, and the Hayward Fault (DOC 2015). These faults are capable of producing strong seismic ground shaking within the program area. However, implementation of the Master Plan would involve replacing older buildings with modern buildings designed to more recent building standards. Future development would be required to adhere to the provisions of the California Building Code (CBC), which sets forth seismic design standards (Chapters 16, 18) and geohazard study requirements (Chapter 18). The CBC requires that structures be designed and constructed to resist seismic hazards, including through foundation design and the completion of soil investigations prior to construction. The City would ensure that development occurring in the Plan Area would be designed and constructed consistent with the current CBC, thereby ensuring that appropriate investigations and design measures have been employed to effectively minimize or avoid potential hazards associated with new

building construction. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with potential seismic ground shaking in the area. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

As described above in the *Setting* Section, the Plan Area is potentially susceptible to liquefaction, a condition that occurs when unconsolidated, saturated soils change to a near-liquid state during ground shaking. While the Geotechnical Investigation prepared at a portion of the Plan Area did not involve deep subsurface exploration and laboratory testing to help evaluate the liquefaction potential of the soils below the Plan Area, it notes that the Plan Area is in an area that may be underlain by soils potentially susceptible to liquefaction during a major earthquake (Appendix E). Therefore, impacts related to liquefaction would be potentially significant.

The Geotechnical Investigation also describes that another primary geotechnical concern within the Plan Area is the presence of highly expansive soils (Appendix E). Expansive soils are characterized by high clay content which expands when saturated with water and shrinks when dry, potentially threatening the integrity of buildings and infrastructure foundations. Building on unsuitable soils would have the potential to create future subsidence or collapse issues that could result in the settlement of infrastructure, and/or the disruption of utility lines and other services. Therefore, impacts related to expansive soils would be potentially significant.

To reduce impacts related to liquefaction, unstable soil, and expansive soil, Mitigation Measure GEO-1 is required.

MITIGATION MEASURE

GEO-1 Geotechnical Investigation. Prior to approval of grading permits for any building associated with the proposed Master Plan, a detailed final geotechnical investigation shall be performed to identify significant geotechnical constraints on the proposed development. The report shall develop formal recommendations for project design and construction, including site grading/soil preparation and foundation design. Among other components, the report shall include a quantitative evaluation of liquefaction susceptibility, including projected levels of post-liquefaction settlement; an evaluation of soil shrink-swell potential; and an investigation of compressible soils that may be prone to settlement/subsidence. The report shall be stamped and signed by a professional engineer (PE) or geotechnical engineer and provided by the applicant

to the City of Palo Alto for review to ensure that foundations designed for all proposed structures are appropriate and meet code requirements. The PE or geotechnical engineer of record shall also review the final grading, drainage, and foundation plans to confirm incorporation of the report recommendations.

SIGNIFICANCE AFTER MITIGATION

Mitigation Measure GEO-1 requires that, prior to approval of grading permits for any building associated with the proposed Master Plan, a detailed final geotechnical investigation must be performed to identify geotechnical constraints on proposed new buildings allowed within the Plan Area. The mitigation measure also requires that the geotechnical investigation include formal recommendations for project design and that it be reviewed by the City along with the proposed development to ensure that foundations and structures are appropriate. Such recommendations could include types of appropriate foundation and design for underground pipelines to compensate for settlement caused by liquefaction. With implementation of Mitigation Measure GEO-1, the potentially significant impact associated with liquefaction and expansive soil would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Earthquakes can trigger landslides that may cause injuries and damage to many types of structures. Landslides are typically a hazard on or near slopes or hillside areas, rather than generally level areas like the Plan Area and vicinity. According to the California Earthquake Hazards Zone map, the Plan Area is not located in an earthquake-induced landslide hazard zone (DOC 2024). The area is generally flat and is not surrounded by hillsides. No impact would occur.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

The Plan Area is developed and generally level, which limits the potential for substantial soil erosion. The grading and excavation phase, when soils are exposed, has the highest potential for erosion. Ground-disturbing activities that would occur with implementation of the proposed Master Plan would include site-specific grading for foundations, subterranean parking, building pads, and utility trenches. Temporary erosion could occur during project construction. However, any development under the Master Plan would be required to comply with PAMC Section 16.28.065, which requires all land-disturbing activities be undertaken in a manner designed to minimize surface runoff, erosion, and sedimentation, and PAMC Section 16.28.120, which requires developers of new projects implement interim erosion and sediment control measures. During implementation of the Master Plan, the City may propose the use of any erosion and sediment control techniques in the interim plan, provided such techniques are proven to be as or more effective than the equivalent best management practices (BMPs) contained in the Manual of Standards.

In addition, new buildings would be required to comply with erosion control standards administered by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) through the National Pollutant Discharge Elimination System (NPDES) permit process, which requires implementation of nonpoint source control of stormwater runoff. The California Stormwater Quality Association (CASQA) BMP Handbook for Construction (CASQA 2009) is typically used for guidance in drafting project-specific BMPs for erosion control, amongst other stormwater issues. For example, CASQA Measure WE-1 (Wind Erosion Control) identifies a variety of BMPs to stabilize exposed surfaces and minimize activities that suspend dust particles (CASQA 2009). This is commonly achieved by applying soil binders or water to disturbed surfaces.

Finally, mitigation measures AIR-2a and AIR-2c of the City of Palo Alto Comprehensive Plan Environmental Impact Report require that future development projects comply with current BAAQMD basic control measures and BAAQMD CEQA Guidelines (City of Palo Alto 2017e). The BAAQMD CEQA Guidelines includes the following BMPs relevant to the avoidance of erosion and topsoil degradation (BAAQMD 2012):

- Include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits
- Require subdivision designs and site planning to minimize grading and use landform grading in hillside areas
- Condition grading permits to require that graded areas be stabilized from the completion of grading to the commencement of construction

Compliance with above listed BAAQMD requirements would ensure that impacts of the proposed development associated with soil erosion and the loss of topsoil would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

New buildings and structures associated with the proposed Master Plan would be connected to the local wastewater treatment system. Septic systems would not be used. No impact would occur.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Rincon Consultants, Inc. evaluated the paleontological sensitivity of the geologic units that underlie the Plan Area using existing paleontological locality data and review of information in the scientific literature concerning known fossils within those geologic units. Fossil collections records from the University of California Museum of Paleontology (UCMP) online database were reviewed, which contain known fossil localities in Santa Clara County (2019). In addition, a

request for a list of known fossil localities from the Plan Area and immediate vicinity (i.e., localities recorded on the United States Geological Survey Mountain View, 7.5-minute topographic quadrangle) was submitted to the Natural History Museum of Los Angeles County (NHMLAC).

Following the literature review, a paleontological sensitivity classification was assigned to the geologic units within the Plan Area. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The Plan Area is situated within the Santa Clara Valley, between the Santa Cruz Mountains to the west, the San Francisco Bay to the north, and the Diablo Range to the east. The Santa Clara Valley is located within the Coast Ranges geomorphic province of California, which extend approximately 600 miles from the Oregon border to the Santa Ynez River in Santa Barbara County and range in elevation from approximately 500 feet above mean sea level (amsl) to 7,581 feet amsl (California Geological Survey 2002; Norris and Webb 1990). According to the published geologic mapping by Dibblee and Minch (2007), the Plan Area is entirely underlain by younger Quaternary (Holocene) alluvial deposits, derived primarily as silty clay and organic clay (Qac) from the intra-fan areas in the southern portion of the San Francisco Bay, but also includes alluvial fine-grained sand, silt, and clay (Qya).

These Holocene deposits typically do not contain significant fossil vertebrate remains in the uppermost layers; however, invertebrate fossil localities were noted during the literature review and museum record search (McLeod 2019). Holocene silty clay interfingers with San Francisco Bay Mud deposits and preserves the remains of small marine fossils, such as clams and snails (City of Palo Alto 2016a; Dibblee and Minch 2007). Intact Holocene deposits in the Plan Area are too young to preserve significant paleontological resources and are determined to have a low paleontological resource potential according to SVP standards (SVP 2010). However, according to the City of Palo Alto's Comprehensive Plan Environmental Impact Report (City of Palo Alto 2016a), Holocene sediments may grade downward into older Quaternary (Pleistocene) deposits (Qoa), which could preserve significant fossil remains at moderate depth.

According to records maintained by the NHMLAC, no previously recorded fossil localities were reported in the Plan Area; however, several vertebrate localities have been recorded north-northeast of the Plan Area within Pleistocene alluvium. The closest vertebrate fossil locality, UCMP 1107, produced fossil specimens of horse (*Equus*) and bison (*Bison antiquus*) to the north-northeast of the Plan Area and west of Livermore. Farther north-northeast, near the city of Martinez, LACM 4626 rendered a fossil specimen of horse (*Equus pacificus*) (McLeod 2019). Depth of recovery was not reported.

A supplemental review of the museum records maintained in the UCMP online collections database did not indicate any vertebrate fossil localities within the Plan Area; however, at least 12 vertebrate fossil localities, which produced specimens of Pleistocene age, were reported in Santa Clara County (UCMP 2019). Four of these localities occurred less than four miles northwest of the Plan Area, near Stanford University, which yielded fossil specimens of Paleoparadoxia (a hippopotamus-like mammal), Allodesmus (a seal-like mammal), as well as bone fragments of other marine mammals (UCMP 2019; City of Palo Alto 2016a).

Holocene alluvial deposits in the Palo Alto area, including Qac and Qya, are part of a series of alluvial fans emanating from the Santa Cruz Mountains. Holocene alluvial fan deposits overlie the paleontologically-sensitive Pleistocene alluvial sediments at an unknown depth within the Plan Area but may be as extensive 18 to 21 feet below ground surface (City of Palo Alto 2016a). Construction activities associated with the Master Plan, including construction of new buildings with subterranean garages, could involve ground disturbance and excavation that could result in the unanticipated discovery of paleontological resources. In addition, excavation at depths greater than 18 feet would involve removal of soils beyond the alluvial fan deposits and are more likely to result in the discovery of paleontological resources. Therefore, impacts are potentially significant, and Mitigation Measure GEO-2 is required in the event that fossil discoveries are unearthed during ground-disturbing activities.

MITIGATION MEASURE

GEO-2 Discovery of Paleontological Resources. Construction activities associated with the development allowed under the Master Plan shall adhere to the following measures.

1. **Initial Demolition and Construction.** Prior to demolition or construction activities associated with the Master Plan, the applicant or its designee will retain a qualified paleontologist to provide on-call services in the event of an unanticipated discovery. A qualified professional paleontologist is defined by the SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least two years (SVP 2010). Prior to the start of construction, the qualified paleontologist or their designee shall conduct a Paleontological Worker Environmental Awareness Program (WEAP), a training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. The WEAP shall be fulfilled at the time of a preconstruction meeting at which a Qualified Paleontologist shall attend.

   In accordance with SVP (2010) guidelines, in the event that undetected buried resources are encountered, all work shall halt in the immediate vicinity of the find and the qualified professional paleontologist shall be notified to evaluate the discovery. The qualified paleontologist shall determine the significance of the discovery and identify whether additional mitigation or treatment is warranted. Measures may include testing, data recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution. All testing, data

recovery, reburial, archival review or transfer to research institutions related to monitoring discoveries shall be determined by the qualified paleontologist and shall be reported to the City. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work.

2. **Excavation Below 18 Feet.** Prior to the commencement of grading and excavation below a depth of 18 feet for any project associated with the Master Plan, applicants shall retain a qualified paleontologist approved by the City of Palo Alto to monitor grading and excavation activities. Full-time monitoring onsite shall occur whenever excavation activities exceed 18 feet below ground surface. The duration and timing of the monitoring will be determined by the qualified paleontologist and the location and extent of proposed ground disturbance. If the qualified paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, he/she may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Any paleontological resources discovered by construction personnel or subcontractors shall be reported immediately to the paleontologist. In the event undetected buried resources are encountered during grading and excavation, all work in the immediate vicinity of the find shall cease and the paleontologist shall evaluate the resource and propose appropriate mitigation measures. Measures may include testing, data recovery, reburial, archival review and/or transfer to the appropriate museum or educational institution. All testing, data recovery, reburial, archival review or transfer to research institutions related to monitoring discoveries shall be determined by the qualified paleontologist and shall be reported to the City.

SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure GEO-2, the potentially significant impact associated with paleontological resources would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
b. Conflict with any applicable plan, policy, or regulation adopted to reduce the emissions of greenhouse gases?	☐	☐	■	☐

CLIMATE CHANGE AND GREENHOUSE GAS (GHG) EMISSIONS

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of Greenhouse Gases (GHG) emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and from human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of a specific GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).

The United Nations IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, that a total of 2,390 gigatons of anthropogenic CO_2 was emitted. It is likely that anthropogenic activities have increased the global surface temperature

by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (California Natural Resource Agency 2019).

THRESHOLDS

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA guidelines*, Section 15064[h][1]).

According to the CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the proposed Project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (2016) in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions.

Air District, California Office of Planning and Research, CARB, California Air Pollution Control Officers Association, other state or applicable regional agencies do not have adopted numerical significance thresholds for assessing GHG emissions that would be applicable to the Master Plan. Air District has adopted qualitative CEQA thresholds for GHG emissions in their 2022 *California Environmental Quality Act Air Quality Guidelines* manual. Based on Air District's thresholds, land use projects must include either A or B below to be determined to have less than significant impacts with respect to GHG emissions (Air District 2023d).

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 energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
    2. Transportation
        a. Achieve 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 (currently 15 percent) 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. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

In June 2023, the City of Palo Alto updated its S/CAP to further reduce local GHG emissions to achieve its goal of carbon neutrality by 2030. In accordance with CEQA Guidelines Section 15064[h] and part B of the Air District guidance, consistency with the S/CAP for GHG emissions is used to determine the significance of this Master Plan.

METHODOLOGY

Calculations of CO_2, methane, and nitrous oxide emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO_2, methane, and nitrous oxide because these make up 98 percent of all GHG emissions by volume and are the GHG emissions the Master Plan would emit in the largest quantities (IPCC 2014). Emissions of all GHGs are converted into their equivalent GWP in terms of CO_2 (i.e., CO_2e). Minimal amounts of other GHGs (such as chlorofluorocarbons) would be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. GHG emissions associated with Master Plan construction and operation were estimated using CalEEMod, version 2022.1, with the assumptions described under Section 3, *Air Quality,* in addition to the following:

- The analysis uses CalEEMod default assumptions for area, water and solid waste sources for the proposed land use.
- The Master Plan would not include natural gas appliances. The CalEEMod defaults for natural gas (kilo British Thermal Units) were converted to electricity (kilowatt hours) and summed with electricity default assumptions.
- In accordance with the Association of Environmental Professional's recommendation, GHG emissions from construction of the Master Plan were amortized over a 30-year period and added to annual operational emissions to determine the Master Plan's total annual GHG emissions (AEP 2016).

IMPACT ANALYSIS

a. Would the Master Plan generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

b. Would the Master Plan conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

CITY OF PALO ALTO 2022 SUSTAINABILITY AND CLIMATE ACTION PLAN

In June 2023, the City of Palo Alto adopted its updated 2022 S/CAP, to achieve reductions in GHG, strengthen community resilience to climate impacts, and enhance equity and quality of life for all residents. The updated S/CAP outlines strategies needed to meet Palo Alto's target of reducing emissions 80 percent below 1990 levels by 2030 and achieving carbon neutrality by 2030.[4] The S/CAP provides goals, strategies and key actions in eight areas: Climate Action, Energy, Mobility, Electric Vehicles, Water, Climate Adaptation and Sea Level Rise, Natural Environment, and Zero Waste. Table 23 summarizes the Project's consistency with the 2022 S/CAP. As discussed therein, the Project would be consistent with the actions and measures contained in the local GHG reduction plan.

Table 23 Project Consistency with 2022 Sustainablility and Climate Action Plan

Action	Project Consistency
Energy	
E2. Reduce greenhouse gas emissions in non-residential equipment, including mixed-fuel rooftop packaged HVAC units, cooking equipment, and small nonresidential gas appliances. **E7.** Use codes and ordinances - such as the energy reach code, green building ordinance, zoning code, or other mandates - to facilitate electrification in both existing buildings and new-construction projects where feasible.	**Consistent.** The Master Plan would include all-electric facilities and maintenance and operations equipment. Additionally, the Master Plan would replace all electrical systems above- and below-grade as part of the new construction buildings and renovation of Building I, Theatre and Pavilion. Therefore, the Master Plan would be consistent with the City's goal to reduce GHG emissions from natural gas sources.
E8. Develop and implement an electric grid modernization plan to increase capacity and resilience.	**Consistent.** The Master Plan would replace the existing PV panels while maintaining a minimum annual generation capacity of 210,000 kilowatt-hours, consistent with current output. Phase 1 would construct approximately 90,000 square feet of solar-ready roof area, and Phase 3 would add an additional 53,500 square feet. The Master Plan would also install additional PV panels or ensure all new roof areas are PV-ready. On-site renewable systems would produce more energy than the facility consumes. In addition, a battery-backup microgrid would be added to eliminate the need for diesel generators during emergency conditions. Therefore, the Master Plan would be consistent with the City's goal to modernize its electrical grid.

[4] The State's goal is to achieve carbon neutrality by 2045.

Action	Project Consistency
Electric Vehicles	
EV6. Expand access to on-site EV charging for multi-family residents. **EV8.** Evaluate mandates or other mechanisms to ensure EV charging capacity is available to support EV growth.	**Consistent.** Although the Master Plan does not include multi-family residents, the Master Plan would be consistent with the California Building Code Chapter 11B and the 2025 CALGreen Standards for non-residential land uses and expand access and EV infrastructure onsite. Therefore, the Master Plan would be consistent with the City's goal to reduce GHG emissions from transportation activity.
Mobility	
M1. Implement transportation and land use infrastructure investments, programs, policies, and incentives to increase the mode share for active transportation (walking, biking) and transit for local work trips.	**Consistent.** The Master Plan would be required to incorporate both short-term and long-term bicycle parking facilities on-site to comply with CALGreen standards. These features will be confirmed and integrated into the Master Plan once the design details are finalized. The Santa Clara Valley Transportation Authority provides bus service immediately north of the Plan Area via Route 21, which operates on Middlefield Road and San Antonio Road, providing service between the Stanford Shopping Center and Santa Clara Transit Center. Therefore, the Master Plan would promote active transportation and reduce the reliance on single occupancy car trips.
Water	
Goal. Reduce Palo Alto's potable water consumption 30 percent compared to a 1990 baseline (subject to refinement based on forthcoming California water efficiency standards expected in 2024)	**Consistent.** The Master Plan would install ultra-high efficiency fixtures for saving portable water and would install purple pipe water systems for landscaping, which align with existing City of Palo Alto purple pipe infrastructure improvements. Therefore, the Master Plan would be consistent with the City's goal to reduce water consumption.

Source: City of Palo Alto 2023

LESS THAN SIGNIFICANT IMPACT

GREENHOUSE GAS EMISSIONS FOR INFORMATIONAL PURPOSES

As discussed in detail under *Thresholds*, neither the Air District nor other applicable regional agencies have a numerical threshold to determine significance of the Master Plan's GHG emissions. Therefore, GHG impacts are determined above through plan compliance, and GHG emissions below are provided for informational purposes only. Construction of the Master Plan would generate temporary GHG emissions primarily from the operation of construction equipment on-site as well as from vehicles transporting construction workers to and from the Plan Area and heavy trucks to transport building materials. Project construction would begin in 2030 and end in 2035[5]. As shown in Table 24, construction of the Master Plan would generate an estimated total of MT CO_2e. Amortized over a 30-year period per AEP guidance, construction of the Master Plan would generate an estimated 79 MT CO_2e per year.

[5] Implementation of the Master Plan will be dependent on available funding.

Table 24 Estimated Construction Emissions of Greenhouse Gases

Construction	Project Emissions MT CO_2e
2030	635
2031	477
2032	323
2033	375
2034	421
2035	139
Total	**2,370**
Amortized over 30 Years	**79**

MT CO_2e = metric tons of carbon dioxide equivalent

Source: Appendix A

Operation of the Master Plan would generate GHG emissions associated with mobile sources, area sources, refrigerant sources, energy and water usage, and wastewater and solid waste generation. Table 25 combines the estimated construction and operational GHG emissions associated with development of the Master Plan, as well as GHG emissions from existing operations within the Plan Area. As shown therein, the net annual emissions from the Master Plan would be approximately 2,653 MT of CO_2e per year.

Table 25 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions (MT CO_2e)
Construction[1]	**79**
Net Operational	**2,574**
Phase I	5,684
Phase II	1,482
Phase III	2,282
Existing	(6,874)
Net Total	**2,653**

MT CO2e = metric tons of carbon dioxide equivalent

[1]Amortized construction related GHG emissions over 30 years

Notes: Parenthetical values are negative numbers and are subtracted from the total emissions rather than added.

Source: Appendix A

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	■	☐	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	■	☐	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	■

FEDERAL AND STATE REGULATIONS

THE FEDERAL TOXIC SUBSTANCES CONTROL ACT (1976) AND THE RESOURCE CONSERVATION AND RECOVERY ACT OF 1976 (RCRA)

These acts established a program administered by the U.S. EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA) (ENACTED 1980), AMENDED BY THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) (1986)

This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled revision of the National Contingency Plan (NCP), which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List (NPL).

DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

As a department of California Environmental Protection Agency (CalEPA), DTSC is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

If any soil is excavated from a site containing hazardous materials, it is considered a hazardous waste if it exceeds specific criteria in Title 22 of the CCR. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does

not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

GOVERNMENT CODE SECTION 65962.5 (CORTESE LIST)

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by the State, local agencies, and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by DTSC, State Water Resources Control Board (SWRCB), and the Department of Resources Recycling and Recovery (CalRecycle).

REGIONAL AND LOCAL REGULATIONS

HAZARD MITIGATION PLANS

The City of Palo has developed several local plans to address emergency preparation and hazards. They include the Foothills Fire Management Plan, the Emergency Operations Plan, and the 2017 Palo Alto Local Hazard Mitigation and Adaptation Plan. The Palo Alto Local Hazard Mitigation and Adaptation Plan identifies and prioritizes potential and existing hazards across jurisdictional borders, including hazards that may be further amplified by climate change. To guide the ongoing hazard mitigation efforts, mitigation objectives are identified with prioritized actions for each objective.

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to hazards and apply to the proposed Master Plan (City of Palo Alto 2017a):

Goal S-2: Protection of life, ecosystems and property from natural hazards and disasters, including earthquake, landslide, flooding, and fire.

Goal S-3: An environment free of the damaging effects of human-caused threats and hazardous materials.

- **Policy S-3.1** Minimize the use of toxic and hazardous materials in Palo Alto. Promote the use of alternative materials and practices that are environmentally benign.
- **Policy S-3.2** Continue working with appropriate agencies to identify and clean up hazardous waste sites and contaminated groundwater.
- **Policy S-3.3** Support public health by requiring as part of development review, property owners and private entities to disclose the presence of contaminated soil or groundwater, identify potential health impacts, prevent vapor intrusion and remediate contamination.

Policy S-3.4 Support public agency policies, regulations, legislation and programs that implement Santa Clara County's Hazardous Materials Management Program.

IMPACT ANALYSIS

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The proposed Master Plan would provide a framework to allow the demolition and construction of buildings in the Plan Area planned for various community services and parking. Operation of these uses would not involve the use or storage large quantities of hazardous materials, other than those typically used for cleaning, maintenance, or landscaping. Therefore, impacts related to the transport, use, or disposal of hazardous materials would be less than significant during operation.

Implementation of the Master Plan would involve construction activities that may include the temporary transport, storage, use, or disposal of potentially hazardous materials including fuels, lubricating fluids, cleaners, solvents, or contaminated soils. If spilled, these substances could pose a risk to the environment and to human health. However, the transport, storage, use, or disposal of hazardous materials is subject to various federal, state, and local regulations designed to reduce risks associated with hazardous materials, including potential risks associated with upset or accident conditions. Hazardous materials would be required to be transported under DOT regulations (U.S. DOT Hazardous Materials Transport Act, 49 Code of Federal Regulations), which stipulate the types of containers, labeling, and other restrictions to be used in the movement of such material on interstate highways. In addition, the use, storage, and disposal of hazardous materials are regulated through the Resources Conservation and Recovery Act (RCRA). The California Department of Toxic Substances Control (DTSC) is responsible for implementing the RCRA program, as well as California's own hazardous waste laws. DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California. It does this primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California H&SC Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (Title 22, California Code of Regulations, Divisions 4 and 4.5). DTSC also oversees permitting, inspection, compliance, and corrective action programs to ensure that hazardous waste managers follow federal and State requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning (City of Palo Alto 2016a). Compliance with existing regulations would reduce the risk of potential release of hazardous materials during construction.

In addition, implementation of the Master Plan would require demolition of the existing on-site buildings, which may contain asbestos and/or lead-based paint (LBP) due to their age. Many of the existing buildings were constructed in the 1950s and 60s. Structures built before the 1970s were constructed typically with asbestos containing materials (ACM). Because the buildings were constructed before the federal ban on the manufacture of Polychlorinated biphenyls chemicals (PCBs), it is also possible that light ballasts in the on-site building contain PCB. Demolition of the existing structures could therefore result in health hazard impacts to workers if not remediated prior to construction activities. However, demolition and construction activities would be required to adhere to BAAQMD Regulation 11, Rule 2, which governs the proper handling and disposal of ACM for demolition, renovation, and manufacturing activities in the Bay Area, and California Occupational Safety and Health Administration (CalOSHA) regulations regarding lead-based materials. The California Code of Regulations, Title 8 Section 1532.1, requires testing, monitoring, containment, and disposal of lead-based materials, such that exposure levels do not exceed CalOSHA standards. DTSC has classified PCBs as a hazardous waste when concentrations exceed 50 parts per million in non-liquids, and the DTSC requires that materials containing those concentrations of PCBs be transported and disposed of as hazardous waste. Light ballasts to be removed would be evaluated for the presence of PCBs and managed appropriately. With required adherence to BAAQMD, CalOSHA, and DTSC regulations regarding ACM, LBP, and PCBs impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

d. *Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

As described above, several school facilities occur within 0.25 miles of the Plan Area. The Plan Area is adjacent to the PAUSD Adult Education Program and Greendell School, a public school offering pre-school and transitional kindergarten programs, as well as two private schools on San Antonio Road. Other nearby schools include Herbert Hoover Elementary School and Challenger School, both approximately 0.1 miles west of the Plan Area, and Milestones Preschool, approximately 0.2 miles west of the Plan Area. As outlined above under items (a) and (b), demolition of the existing structures would likely require removal and movement of materials contaminated by asbestos and lead-based paint. Hauling of such materials may occur within 0.25 miles of the Plan Area. However, given required compliance with the rules and regulations described above under items (a) and (b), impacts from asbestos and lead would be less than significant.

The following databases were checked, pursuant to Government Code Section 95962.5, in September 2025 for known hazardous materials contamination at the Plan Area:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

- Comprehensive Environmental Response, Compensation, and Liability Information System/ Superfund Enterprise Management System/Envirofacts database search

STATE WATER RESOURCES CONTROL BOARD (SWRCB)

- GeoTracker search for leaking underground storage tanks and other cleanup sites

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

- EnviroStor search for hazardous facilities or known contamination sites
- Cortese List of Hazardous Waste and Substances Sites
- Cleanup Site and Hazardous Waste Facilities Database

The Plan Area is not included on a list compiled pursuant to Section 65962.5 of the Government Code. However, several nearby properties are included on a list, as described below:

- **705 San Antonio Road** (approximately 600 feet northeast of the Plan Area) is listed on the State Water Resources Control Board for a leaking underground storage tank (LUST). However, the case was closed in December 2008.
- **4201 Middlefield Road** (approximately 600 feet northeast of the Plan Area) is listed on the State Water Resources Control Board for a leaking underground storage tank (LUST). However, the case was closed in December 1998.
- **4225 Middlefield Road** (approximately 600 feet northeast of the Plan Area) is listed as a cleanup program site. However, the case was closed as of October 2015.
- **690 San Antonio Road** (approximately 700 feet east of the Plan Area) is listed on the State Water Resources Control Board for a leaking underground storage tank (LUST). However, the case was closed in August 1999.
- **699 San Antonio Road (**approximately 500 feet east of the Plan Area) is listed on the State Water Resources Control Board for a leaking underground storage tank (LUST). However, the case was closed in December 2004.
- **3900 Middlefield Road** (approximately 200 feet north of the Plan Area) is listed on the State Water Resources Control Board for a leaking underground storage tank (LUST). However, the case was closed in April 1999.

While all these cases are closed, the Plan Area may contain hazardous materials associated with contamination at adjacent properties. Based on these site conditions, construction activities, including excavation to accommodate foundations and subterranean parking garages, could expose construction workers or nearby residents to potentially unacceptable health risks from contaminated soil. Moreover, hauling of such materials may occur within 0.25 miles of schools. Impacts are therefore potentially significant and the following mitigation measure is required to reduce impacts to a less than significant level.

MITIGATION MEASURES

HAZ-1 Site Risk Management Plan. Prior to issuance of permits allowing groundwater dewatering or earth-disturbing activity, the developer shall prepare a site risk management plan (SRMP). The SRMP will address known and unknown environmental

issues that may be encountered during development. The plan shall identify appropriate measures to be followed when impacted soil and groundwater are encountered during demolition, excavation, dewatering, and construction. This includes health and safety measures to reduce exposure to potentially impacted soil and groundwater for construction workers and dust control measures to reduce exposure to contaminated dust particles for nearby residents.

Health and safety measures shall include the required personal protective equipment (PPE) to be used by site personnel, including action levels and decision criteria for upgrading the levels of PPE. The SRMP shall also identify personnel to be notified, emergency contacts, and a sampling protocol if impacted media is encountered. The excavation and demolition contractors shall be made aware of the possibility of encountering known and unknown hazardous materials including impacted soil and groundwater; and shall be provided with appropriate contact and notification information. The plan shall include a provision stating at what point it is safe to continue with the excavation or demolition, and identify the person authorized to make that determination. In addition, the SRMP shall include measures for the appropriate handling and profiling of impacted soil and groundwater to be removed from the project site and disposed offsite. Removal, transportation, and disposal of impacted soil and groundwater shall be performed in accordance with applicable federal, state, and local laws, regulations, and ordinances.

The SMRP shall be submitted to the City of Palo Alto for review and approval prior to issuance of a grading or building permit. If deemed necessary by City staff, the SRMP shall also be submitted to the Santa Clara County Department of Environmental Health for review and oversight.

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure HAZ-1 would ensure that impacts would be reduced to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The Palo Alto Airport of Santa Clara County (PAO) is the closest airport to the Plan Area. PAO is a 103-acre facility with a single runway, parallel taxiway, and a building area. The airport is located approximately 2.4 miles northwest of the Plan Area. The airport primarily serves small general aviation aircraft. The Plan Area is located entirely outside of the airport safety and traffic pattern zones (Santa Clara County 2016). Moreover, there are no private airstrips in the vicinity of the Plan Area. Therefore, no impact related to airport safety would occur.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Implementation of the Master Plan would involve the demolition of existing buildings and construction of new buildings to accommodate expanded community uses, including indoor and outdoor facilities. The new buildings would not obstruct existing roadways or require the construction of new roadways or access points.

The Palo Alto Emergency Operations Plan identifies the Cubberley Community Center as an alternate site for the seat of local government, after Palo Alto City Hall. While construction activities related to the Master Plan could prevent the use of portions of the community center temporarily, the new community center would accommodate a larger capacity in new buildings. Due to the phased nature of the project, should the need for an alternate site for the seat of local government be needed during project construction, facilities in the Plan Area would still be available for this use. Further, the new buildings and site design within the Plan Area would be subject to review by the Palo Alto Fire Department prior to building permit approval. Such review would ensure that the new buildings would meet current fire and building code requirements for emergency access. Impacts would therefore be less than significant.

LESS THAN SIGNIFICANT IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The Plan Area is surrounded by urban land uses that are not mixed with or adjacent to wildlands. Surrounding land uses include commercial and residential development and are not located in an area subject to wildland fire hazards. The Plan Area is not located in a Very High Fire Hazard Severity Zone and would not be exposed to an increased risk of wildfires (California Department of Forestry and Fire Protection [CAL FIRE] 2024). Therefore, the implementation of the Master Plan would not expose people or structures to a significant risk from wildland fires. There would be no impact.

NO IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin	☐	☐	■	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	■	☐
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				
(iv) Impede or redirect flood flows?				
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

SETTING

The project is located within the Santa Clara sub basin of the Santa Clara Valley Groundwater Basin. The City of Palo Alto owns and maintains the municipal storm drainage system that serves the Plan Area. The Master Plan Area is located in the Adobe/Barron Drainage Area. The lines that serve the Plan Area drain into the Adobe Creek, which is located approximately 700 feet west of the Plan Area, and Adobe Creek drains into the San Francisco Bay. The Master Plan Area is currently developed.

FEDERAL AND STATE REGULATIONS

CLEAN WATER ACT

Congress enacted the Clean Water Act (CWA), formally the Federal Water Pollution Control Act of 1972, with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the U.S. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the NPDES permit process (CWA Section 402). The Plan Area is under the jurisdiction of the San Francisco Bay RWQCB.

Section 401 of the CWA requires the RWQCB certify any activity that may result in discharges into a state waterbody. This certification indicates that the proposed activity is consistent with federal and/or state water quality standards. The limits of non-tidal waters extend to the Ordinary High Water Mark, defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris. The United States Army Corps of Engineers may issue either individual, site-specific permits or general, nationwide permits for discharge into waters of the U.S.

Section 303(d) of the CWA (CWA, 33 USC 1250, et seq., at 1313(d)) requires states to identify "impaired" waterbodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states must prioritize waters and watersheds for future development of TMDLs. The SWRCB and RWQCBs enact ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

PORTER-COLOGNE WATER QUALITY CONTROL ACT

The SWRCB regulates water quality through the Porter-Cologne Water Quality Control Act of 1969, which contains a complete framework for the regulation of waste discharges to both surface waters and groundwater of the State. RWQCBs regulate stormwater quality under authorities of the federal CWA and the state Porter-Cologne Water Quality Control Act.

NPDES STATEWIDE CONSTRUCTION GENERAL PERMIT

Construction projects that disturb one or more acres of soil or are part of a larger common plan of development that disturbs one or more acres of soil must obtain coverage under the statewide NPDES General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). To obtain coverage under the Construction General Permit, a project-specific SWPPP must be prepared. The SWPPP outlines BMPs to reduce stormwater and non-stormwater pollutant discharges including erosion control, minimize contact between construction materials and precipitation, and implement strategies to prevent equipment leakage or spills.

REGIONAL AND LOCAL REGULATIONS

MUNICIPAL REGIONAL STORMWATER NPDES PERMIT

The San Francisco Bay RWQCB has issued a Municipal Regional Stormwater NPDES Permit (Permit Number CAS612008) (MRP) that covers the project area. Under provisions of the NPDES Municipal Permit, redevelopment projects that disturb more than 10,000 square feet are required to design and construct stormwater treatment controls to treat post-construction stormwater runoff. The MRP requires regulated projects to include Low Impact Development (LID) practices, such as pollutant source control measures and stormwater treatment features aimed to maintain or restore the site's natural hydrologic functions. The MRP also requires stormwater treatment measures are properly installed, operated and maintained.

GROUNDWATER MANAGEMENT PLAN

The Sustainable Groundwater Management Act requires the preparation of a Groundwater Sustainability Plan for medium and high priority basins. The Santa Clara Valley Groundwater Basin is a high priority basin, and the 2016 Groundwater Management Plan contains goals and strategies for managing the groundwater resources.

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to hazards and apply to the proposed project (City of Palo Alto 2017a):

Goal T-5: Encourage attractive, convenient, efficient and innovative parking solutions for all users.

- **Policy T-5.6** Strongly encourage the use of below-grade or structured parking, and explore mechanized parking instead of surface parking for new developments of all types while minimizing negative impacts including on groundwater and landscaping where feasible.
- **Policy T-5.8** Promote vehicle parking areas designed to reduce stormwater runoff, increase compatibility with street trees and add visual interest to streets and other public locations. Encourage the use of photovoltaic panel or tree

canopies in parking lots or on top of parking structures to provide cover, consistent with the *Urban Forest Master Plan*.

Goal N-2: A thriving urban forest that provides public health, ecological, economic, and aesthetic benefits for Palo Alto.

Policy N-2.4 Protect soils in both urban and natural areas as the foundation of a healthy urban forest. Recognize that healthy soils are necessary to filter air and water, sustain plants and animals and support buildings and infrastructure.

Goal N-4: Water resources and infrastructure that are managed to sustain plant and animal life, support urban activities, and protect public health and safety.

Policy N-4.1 Maintain a safe, clean and reliable long-term supply of water for Palo Alto.

Policy N-4.2 Maintain cost-effective citywide water conservation and efficiency programs for all customers, including low-income customers, through education, rebates, assistance programs and building requirements.

Policy N-4.4 Manage water supply and water quality to reflect not only human use but also the water needed to sustain plant and animal life.

Policy N-4.7 Ensure regulation of groundwater use to protect it as a natural resource and to preserve it as a potential water supply in the event of water scarcity.

Policy N-4.10 Reduce pollution in urban runoff from residential, commercial, industrial, municipal, and transportation land uses and activities.

Policy N-4.12 Promote sustainable low water and pesticide landscaping practices on both public and private property.

Policy N-4.13 Encourage Low Impact Development (LID) measures to limit the amount of pavement and impervious surface in new development and increase the retention, treatment and infiltration of urban stormwater runoff. Include LID measures in major remodels, public projects and recreation projects where practical.

Policy N-4.14 Improve storm drainage performance by constructing new system improvements where necessary.

IMPACT ANALYSIS

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Implementation of the proposed Master Plan would introduce heavy equipment to the Plan Area during construction, which could temporarily increase the risk of pollutants such as sediments, fuels, oils, lubricants, and other construction-related chemicals entering stormwater runoff due to leaks or accidental releases.

The Clean Water Act and other regulations govern water quality of stormwater runoff. As part of Section 402 of the Clean Water Act, the USEPA has established regulations under the NPDES program to control both construction and operation (occupancy) stormwater discharges. In California, the SWRCB administers the NPDES permitting program and is responsible for developing permitting requirements. Under the conditions of the County's NPDES Municipal Regional Stormwater Permit (Order No. R2-2015-0049), the City of Palo Alto must implement a stormwater management plan to control polluted discharges to the stormwater drainage system. The City of Palo Alto is a participating agency in the Santa Clara Valley Urban Runoff Pollution Prevention Program (Program). The City must meet the provisions of the Municipal Regional Stormwater Permit by ensuring that new development and redevelopment mitigate water quality impacts to stormwater runoff during the construction and operation of projects. The Program's Permit Provision C.3 contains requirements for controlling the potential impacts of land development on stormwater quality and flow. Projects that create or replace 10,000 square feet or more of impervious surface must include appropriate site design measures, pollutant source controls, and treatment control measures. Implementation of the proposed Master Plan would involve replacing more than 10,000 square feet of impervious surfaces and would be subject to these requirements.

Additionally, development under the Master Plan would be required to comply with Chapter 16.11 of the PAMC, which requires that permanent stormwater pollution prevention measures be incorporated into new development projects. These may include but are not limited to minimization of impervious surfaces; construction of sidewalks, walkways, and/or patios with permeable surfaces; and minimization of disturbances to natural drainages. While development envisioned in the proposed Master Plan would involve new impervious surface, it would also involve new landscaping and pervious surfaces and walkways. As described in the *Description of Project* Section, the Master Plan also envisions additional on-site stormwater capture, retention, and treatment compared to existing conditions. This would reduce the potential for polluted stormwater to enter the storm drain system.

The Master Plan Area is approximately 300 feet north of the contour line for a depth to groundwater of two to six feet below ground surface (May et al., 2022). Since the Master Plan anticipates with the use of below-grade parking structures, dewatering would be required if groundwater is exposed during excavation activities. If groundwater is encountered, the City's *Construction Dewatering System Policy and Plan Preparation Guidelines* require that excavation activities that encounter groundwater submit a Construction Dewatering Plan to the City's Public Works Department (City of Palo Alto 2013). The Public Works Department would review and permit the dewatering plan prior to commencement of dewatering as part of the Street Work Permit process. The Construction Dewatering Plan must comply with the City's Guidelines that require that water be tested for contaminants prior to initial discharge and at intervals during dewatering. In the dewatering plan, the applicant must include provisions for keeping sediment and contaminated groundwater out of the storm drain system. With adherence to the City's policies regarding dewatering and Mitigation Measure GEO-1 to ensure compliance with geotechnical recommendations related to the presence of groundwater, contaminated groundwater would not enter the stormwater system.

With adherence to requirements listed above, implementation of the Master Plan would not violate water quality standards, waste discharge requirements, or degrade water quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

As discussed in Section 19, *Utilities and Service Systems*, development under the Master Plan would receive its water from the SFPUC. The Regional Water System collects water from the Tuolumne River in the Sierra Nevada and from protected local watersheds in the East Bay and Peninsula; water supply to the Plan Area would not rely on groundwater supplies. Implementation of the proposed Master Plan would not involve installation of new groundwater wells or use of groundwater from existing wells. The Master Plan would not result in a net deficit in aquifer volume or a lowering of the groundwater table or in an exceedance of safe yield or a significant depletion of groundwater supplies.

The Plan Area is currently developed with buildings, paved walkways, and surface parking areas associated with the existing Cubberley Community Center. While implementation of the Master Plan would increase the amount of development on the site, it would also replace impervious surface parking areas with landscaped pedestrian and bicycle pathways, outdoor recreation areas, and other pervious surfaces. New development would incorporate below-grade parking structures rather than surface lots, resulting in an overall reconfiguration of impervious areas and the introduction of new on-site areas available for infiltration. These new permeable surfaces would provide equal or greater stormwater infiltration opportunities than currently exist, even though some new impervious surfaces would also be added.

Because the site is already developed and contributes minimally to regional groundwater recharge, and because the Master Plan would incorporate new permeable areas and comply with the City's post-construction stormwater management requirements, the project would not substantially interfere with groundwater recharge. Given the lack of groundwater use on-site, the absence of groundwater extraction infrastructure, and the minimal change in recharge potential, the Master Plan would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin. Impacts related to groundwater would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Adobe Creek is located approximately 700 feet west of the Plan Area and does not flow through or adjacent to the Plan Area. The Plan Area is currently developed and implementation of the Master Plan would not alter the course of this creek or other stream or river (no other surface water features are identified in the vicinity of the Plan Area). The Plan Area is connected to an existing stormwater drainage system located in the City of Palo Alto's Barron Creek Watershed. Stormwater runoff in the Plan Area is currently flowing to Barron Creek (located approximately 1.4 miles northwest of the Plan Area) and eventually to the San Francisco Bay (City of Palo Alto 2002).

While implementation of the proposed Master Plan would involve the introduction of new impervious surfaces, new pervious surfaces would also be introduced. Development under the Master Plan would involve below-grade parking structures beneath new buildings and the replacement of impervious surface parking areas with landscaped pedestrian and bike pathways and outdoor recreation space. These new permeable surfaces would allow for more on-site stormwater infiltration than under existing conditions. Therefore, the Master Plan would not result in a substantial increase in runoff from the Plan Area such that new or increased flooding would occur on- or off-site. Stormwater leaving the Plan Area would enter the City's existing stormwater conveyance system.

As described in Section 7, *Geology and Soils,* implementation of the Plan would be required to comply with erosion control requirements in PAMC Chapter 16.28 and the standards administered by the San Francisco Bay Regional Water Quality Control Board (SFRWQCB) through the National Pollutant Discharge Elimination System (NPDES) permit process.

The proposed Master Plan would not introduce new surface water discharges, substantially increase runoff volumes, result in substantial erosion or siltation, or result in flooding on- or off-site. The Master Plan would also not alter the existing drainage pattern of the site. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As described under criterion (c(i)) above, implementation of the proposed Master Plan is not likely to result in an increase in overall impervious surfaces; the Master Plan calls for more

landscaped areas within the Plan Area than currently exists and for existing surface parking areas to be replaced by subterranean garages below new buildings. Therefore, implementation of the Plan is not expected to substantially increase the rate of surface runoff. Nonetheless, development under the Master Plan would be required to implement Treatment Control Measures, Site Design Measures, and Source Control Measures. Stormwater runoff from the Treatment Control Measures and Site Design Measures would drain into new treatment areas onsite prior to entering the storm drainage system. Details of specific measures which demonstrate compliance with Provision C.3 of the Municipal Regional Stormwater Permit, would be included in the project design and subject to review and approval by the City's Public Works Division as part of any building or grading permit associated with development under the Master Plan. Since the project is not expected to cause a substantial increase in overall impervious surfaces and would comply with stormwater control measures, the project would not generate significant volumes of stormwater which would impact the existing storm drain system. Therefore, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The Plan Area is located approximately 1.5 miles from the San Francisco Bay and approximately 16.5 miles from the coast of the Pacific Ocean. According to Map S-6 of the Comprehensive Plan, the Plan Area is not in an area vulnerable to either an approximately 24-inch or approximately 55-inch sea level rise (City of Palo Alto 2017a). In addition, the Plan Area is not located within a tsunami inundation zone (DOC 2009) and the potential impact to the city from seiches and mudflow/debris flow is minimal (City of Palo Alto 2016a). The Master Plan Area is flat and surrounded by residential and commercial development away from crests and steep ridges. The Plan Area is located in a low hazard area for tsunami, seiche, and mudflow and, as discussed in the geotechnical investigation, there is a low potential for inundation. No impact would occur.

NO IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed under criterion (a), implementation of the Master Plan would not violate water quality standards or degrade water quality during construction or operation and would not interfere with the San Francisco Bay Water Quality Control Plan (Basin Plan). The Master Plan Area is located in the Santa Clara Valley Groundwater Basin, which has a high basin prioritization (DWR 2018). Pursuant to the Sustainable Groundwater Management Act (SGMA), the Groundwater Management Plan for the Santa Clara Valley basin describes the SCVWD's groundwater sustainability goals, and the strategies, programs, and activities that support those goals. Implementation of the proposed Master Plan would not involve on-site groundwater extraction and, as described under criterion (c) above, would not substantially increase the impervious surfaces within the Plan Area. Additional water requirements from development

under the Master Plan would be provided by SFPUC. The Regional Water System collects water from the Tuolumne River in the Sierra Nevada and from protected local watersheds in the East Bay and Peninsula. Water supply to the Plan Area would not rely on groundwater supplies. As a result, the Master Plan would not interfere with groundwater recharge or with the implementation of the Groundwater Management Plan and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
a. Physically divide an established community?	☐	☐	■	☐
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?	☐	☐	■	☐

LOCAL REGULATIONS

2030 COMPREHENSIVE PLAN

Adopted in 2017, the City of Palo Alto Comprehensive Plan is a long-range statement of policies for the development and preservation of Palo Alto. The Plan contains the City's official policies on land use and community design, transportation, housing, natural environment, safety, business and economics and community services. Its policies apply to both public and private properties. Its focus is on the physical form of the city. It identifies eight major themes: 1) Building Community and Neighborhoods; 2) Maintaining and Enhancing Community Character; 3) Reducing Reliance on the Automobile; 4) Meeting Housing Supply Challenges; 5) Protecting and Sustaining the Natural Environment; 6) Keeping Palo Alto Prepared; 7) Meeting Residential and Commercial Needs; and 8) Providing Responsive Governance and Regional Leadership.

The Plan's goals are implemented through decisions and actions consistent with the objectives policies and actions of each of the seven Elements: Land Use & Community Design, Transportation, Housing, Natural Environment, Safety, Business & Economics, and Community Services & Facilities. The Plan outlines that "at times, be necessary to amend the Plan. While some amendments change the land use designation of a particular property, any part of the Plan may be amended as circumstances change… Only through continuing to use, evaluate and amend the Plan on a regular basis can Palo Alto reach towards the vision sought by all the dedicated people who contributed to the development of the Plan" (page 10).

The Land Use and Community Design Element of the City's Comprehensive Plan includes goals, policies, and actions to fulfill the following vision: "Palo Alto's land use decisions shall balance our future growth needs with the preservation of our neighborhoods, address climate protection priorities through sustainable development near neighborhood services and enhance the quality of life of all neighborhoods" (page 11).

The Land Use and Community Design Element also categorizes areas in the City into different land use designations and includes a diagram that maps these classifications to areas in the City Map L-6). The Plan Area is designated School District Land. Properties in this designation tend to be owned or leased by PAUSD or used for educational and recreational purposes. The maximum FAR within School District Land is 1.0.

CITY OF PALO ALTO ZONING ORDINANCE

The Comprehensive Plan is implemented through the Zoning Ordinance, PAMC Title 18 and other City ordinances. The City's Zoning Ordinance and associated Zoning Maps set forth specific zoning districts and codifies development standards that apply to each district. The Plan Area is zoned Public Facilities (PF). The PF district is intended to allow governmental, educational, and recreational uses. In addition to PF, the Plan Area parcel is also zoned Site and Design Review Combing District (D). The D district "is intended to provide a process for review and approval of development in environmentally and ecologically sensitive areas, including established community areas which may be sensitive to negative aesthetic factors, excessive noise, increased traffic or other disruptions, in order to assure that use and development will be harmonious with other uses in the general vicinity, will be compatible with environmental and ecological objectives, and will be in accord with the Palo Alto Comprehensive Plan" (PAMC Section 18.30(G).010).

IMPACT ANALYSIS

a. Would the project physically divide an established community?

The Master Plan Area is in an urban, developed portion of the City of Palo Alto. The proposed Master Plan would not include elements that would physically divide the established communities within the Plan Area. The project parcel contains the existing Cubberley Community Center. With construction and renovations, the project parcel would not be divided by streets or roadways, and no new major roads or other large or linear facilities would be constructed that would physically divide the established community. No impact would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

CONSISTENCY WITH THE PALO ALTO COMPREHENSIVE PLAN

As described under Local Regulations, the Plan Area has a Comprehensive Plan land use designation of School District Lands. According to the Comprehensive Plan, the School District Lands designation is for "properties owned or leased by public school districts and used for educational, recreational, or other non-commercial, non-industrial purposes. FAR may not exceed 1.0." The proposed project involves recreational, non-commercial, and non-industrial

uses and would not exceed a FAR of 1.0. Therefore, it is consistent with the School District Lands designation.

The City may decide to amend the 2030 Comprehensive Plan to change the Plan Area land use designation from School District Land to Major Institution/Special Facilities for greater flexibility in implementing the Master Plan. According to the Comprehensive Plan, the Major Institution/Special Facilities land use designation is intended for "institutional, academic, governmental and community service uses and lands that are either publicly owned or operated as non-profit organizations." The proposed project involves a community service use that would be owned by the City of Palo Alto. Therefore, should the Plan Area be re-designated to Major Institution/Special Facilities, the project would be consistent with this land use designation.

Program C4.5.1 of the Palo Alto Comprehensive Plan calls for the City to "use Cubberley Community Center as a critical and vital part of the City's service delivery system while also planning for its future" (City of Palo Alto 2017a). The proposed Master Plan envisions demolition and renovation of buildings within the Plan Area. The Master Plan would therefore accomplish Program C4.5.1 by creating a framework to create a future community center that would provide new and expanded space for community, recreational, and educational uses.

Moreover, the proposed Master Plan would further several Comprehensive Plan Policies. Table 26 below provides a list of selected applicable policies and a discussion of the Plan's consistency with each.

Table 26 Consistency with Palo Alto 2030 Comprehensive Plan Land Use-Related Policies

Comprehensive Plan Policy	Consistent?
Policy C-1.4: Promote City parks, open spaces, recreational facilities, libraries, classes and cultural activities for community members recognizing that these facilities and services build and strengthen community.	**Consistent.** The Master Plan would allow for the construction of a revitalized community center, which would offer improved services and spaces for community members.
Policy C-4.1: Develop new community facilities as needed to meet the evolving needs of residents and employees of Palo Alto, including the need for amenities for seniors within existing parks. Use the Parks, Trails, Open Space and Recreation Master Plan and Urban Forest Master Plan, which are incorporated by reference, to guide development of new facilities.	**Consistent.** The Master Plan would allow new and expanded community center facilities for residents and employees in Palo Alto.
Policy C-4.2: Strategically locate new public facilities and parks to serve all residents in the City.	**Consistent.** Implementation of the Master Plan would involve construction of expanded community center buildings in a location that is centrally located in the City of Palo Alto and already visited by many Palo Alto residents.

The table above shows that the proposed Master Plan would be consistent with many Comprehensive Plan policies, particularly the policies that relate to public services and public facilities. Given consistency with these policies, and assuming approval of the required

Comprehensive Plan amendment(s) prior to physical changes within the Plan Area, and that the Plan would not result in significant impacts in other issue areas, as described in sections 1-21 of this document, impacts related to consistency with the City's Comprehensive Plan would be less than significant.

CONSISTENCY WITH THE PALO ALTO MUNICIPAL CODE

As described above, the Plan Area is zoned Public Facilities (PF) with a Site and Design Review Combining District (D).

Table 27 below illustrates some of the applicable zoning standards in these zoning districts.

Table 27 Zoning Development Standards Comparison Table

Development Standard	Public Facilities (PF) District	PF (D) District
Maximum Floor Area Ratio	1.0	1.0
Maximum Site Coverage	30 percent	30 percent
Maximum Height	35 – 50 feet	35 – 50 feet
Maximum Residential Density	N/A	N/A

The proposed Master Plan envisions a combination of demolition and renovation of existing buildings within the Plan Area. New development under the Plan would meet the applicable zoning standard requirements, including FAR, site coverage, maximum height. The proposed community center is consistent with uses allowed in the PF zone. The proposed Master Plan would not conflict with zoning requirements and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project have any of the following impacts:				
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?	☐	☐	☐	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The Plan Area and surrounding properties are part of an urbanized area with no current oil or gas extraction. According to the Natural Environment Element of the Comprehensive Plan, Palo Alto does not contain mineral deposits of regional significance (City of Palo Alto 2017c). No mineral resource activities would be altered or displaced by the proposed project.

NO IMPACT

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13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

OVERVIEW OF NOISE AND VIBRATION

NOISE

Sound is a vibration that transmits through a medium (such as a gas, liquid, or solid) created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired, and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler et al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as the doubling of vehicle traffic volumes, results in a noise level increase of 3 dB, whereas dividing the energy in half results in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy (i.e., the perception of sound is not linear in terms of dBA or in terms of sound energy). Two sources, each containing the same sound energy, do not "sound twice as loud" as one source. It is widely accepted that the average healthy human ear can detect changes (either increases or decreases) of 3 dBA, which is recognized as being barely perceptible to most people. Similarly, a change of 5 dBA is readily perceptible and a change of 10 dBA sounds twice (or half) as loud (Crocker 2007).

The level and frequency content of sound changes as it travels from the source to a receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which sound is reduced with distance depends on factors, such as the type of source (e.g., a point or line source), the path the sound travels, site conditions, and the presence of intervening structures or other obstacles. Noise from a point source (e.g., construction equipment, industrial machinery, ventilation units) typically is reduced at a rate of 6 dBA per each doubling of distance away from the source. Noise from a line source (e.g., roadway, pipeline, railroad) typically is reduced at a rate of 3 dBA per each doubling of distance away from the source (Caltrans 2013). The propagation of noise is also affected by the absorption characteristics of the ground: a hard site, such as a parking lot or smooth body of water, provides no absorption/attenuation and the changes in noise levels with distance result simply from the geometric spreading of the source (i.e., 3 or 6 dBA reduction per doubling of distance for a point source or line source, respectively). Conversely, a soft site, such as soft dirt, grass, or scattered bushes and trees, may provide additional absorption/attenuation, potentially reducing noise levels an additional 1.5 dBA per doubling of distance away from the source (Caltrans 2013). Noise levels may also be reduced by intervening structures. The amount of reduction provided by the "shielding" of these features depends on the size of the structure/s, the location of the structure/s relative to the noise source and receivers, and the frequency content of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight between a noise source and receiver will provide at least a 5 dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). The presence of building structures can substantially reduce noise levels from the exterior to the interior as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day at which noise occurs and the duration of the noise are also important factors when considering potential noise impacts. Most noise that lasts for more than a few seconds is variable in its amplitude (i.e., the noise level continuously fluctuates over time). Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent continuous sound level (L_{eq}), which considers both duration and the sound power level of the source. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. The extent of sound level fluctuations over a period of time is characterized by the minimum (L_{min}) and maximum (L_{max}) sound pressure

levels, which represent the lowest and highest sound pressure levels measured during a given period, respectively.

The sound level that is exceeded "n" percent of time during a given sample period in the percentile noise level is represented as L_n. For example, the L_{50} level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the "median sound level." The L_{10} level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum), and this is often known as the "intrusive sound level." The L_{90} is the sound level exceeded 90 percent of the time and is often considered the "effective background level" or "residual noise level."

Noise that occurs at night tends to be more disturbing than noise that occurs during the day. Community noise is usually measured using the Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.) hours. It is also measured using the Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring during evening hours (7:00 p.m. to 10:00 p.m.) and a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.) (Caltrans 2013). Noise levels described by the L_{dn} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of traffic during the day, evening, and night.

GROUNDBORNE VIBRATION

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body ranges between less than 1 Hz to 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as that from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (Federal Transit Administration [FTA] 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern of vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration amplitudes are usually expressed in peak particle velocity (PPV), or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

ENVIRONMENTAL SETTING

NOISE-SENSITIVE RECEPTORS

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The City of Palo Alto Comprehensive Plan 2030 defines noise-sensitive receptors as "…any land use that is susceptible to the effects of loud noise, including hospitals, nursing homes, schools, childcare facilities, and residential areas" (City of Palo Alto 2017). The nearest noise-sensitive receptors in the vicinity of the Plan Area include adjacent single-family residences near the northeastern and southwestern corners of the Plan Area and the Greendell School near the southeastern corner of the Plan Area. Additional noise-sensitive receptors include single-family residential properties located approximately 75 feet north of the northern Plan Area boundary (across from Middlefield Road) and 525 feet south of the southern Plan Area boundary.

EXISTING PLAN AREA AMBIENT NOISE ENVIRONMENT

The primary noise source in the vicinity of the Plan Area is vehicular traffic along nearby roadways and general residential and recreational noise. To characterize ambient noise levels near the Plan Area, three short-term (15-minute) noise level measurements were taken on November 24, 2025 and two long-term (24-hour) noise level measurements were taken on November 24–25, 2025 using Soft dB Piccolo-II, Type 2 integrating sound level meters. The sound level meters were calibrated prior to and after measurements. Short-term noise measurement 1 (ST1) was conducted along Middlefield Road at the northeastern corner of the Plan Area; ST2 was conducted at the approximate midpoint of the southern Plan Area boundary; and ST3 was conducted near the northwestern corner of the Plan Area. Long-term noise measurement 1 (LT1) was conducted at the eastern edge of the Plan Area near the existing Greendell School and LT2 was conducted near the southwestern corner of the Plan Area near existing single-family residences. Approximate noise measurement locations are shown in Figure 9. Table 28 summarizes the results of the short-term noise measurements, Table 29 summarizes the results of the long-term noise measurements at LT1, and Table 30 summarizes the results of the long-term noise measurements at LT2.

Table 28 Short-Term Noise Measurement Results

Measurement Location	Location Description	Sample Times[1]	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
ST1	At northeastern corner of Plan Area, along Middlefield Road	3:19 – 3:34 p.m.	54	41	69
ST2	Along southern edge of Plan Area	3:42 – 3:57 p.m.	62	43	73
ST3	Near northwestern corner of Plan Area	4:05 – 4:20 p.m.	65	46	75

dBA = A-weighted decibel; L_{eq} = equivalent continuous sound level; L_{min} = minimum sound level; L_{max} = maximum sound level

[1] All short-term noise measurements were conducted on November 24, 2025.

Noise measurement data included as Appendix F; approximate noise measurement locations are shown in Figure 9.

Table 29 Long-Term Noise Measurement Results (LT1)

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT1, At eastern edge of Plan Area – November 24–25, 2025			
3:00 p.m.	51	3:00 a.m.	44
4:00 p.m.	50	4:00 a.m.	57
5:00 p.m.	51	5:00 a.m.	58
6:00 p.m.	52	6:00 a.m.	57
7:00 p.m.	53	7:00 a.m.	57
8:00 p.m.	52	8:00 a.m.	55
9:00 p.m.	53	9:00 a.m.	55
10:00 p.m.	52	10:00 a.m.	53
11:00 p.m.	50	11:00 a.m.	48
12:00 a.m.	48	12:00 p.m.	52
1:00 a.m.	44	1:00 p.m.	49
2:00 a.m.	45	2:00 p.m.	49
24-hour Noise Level (dBA CNEL)			**60**

dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level; CNEL = Community Noise Equivalent Level

Approximate noise measurement locations are shown in Figure 9. Graphical sound level measurement results are included in Appendix F

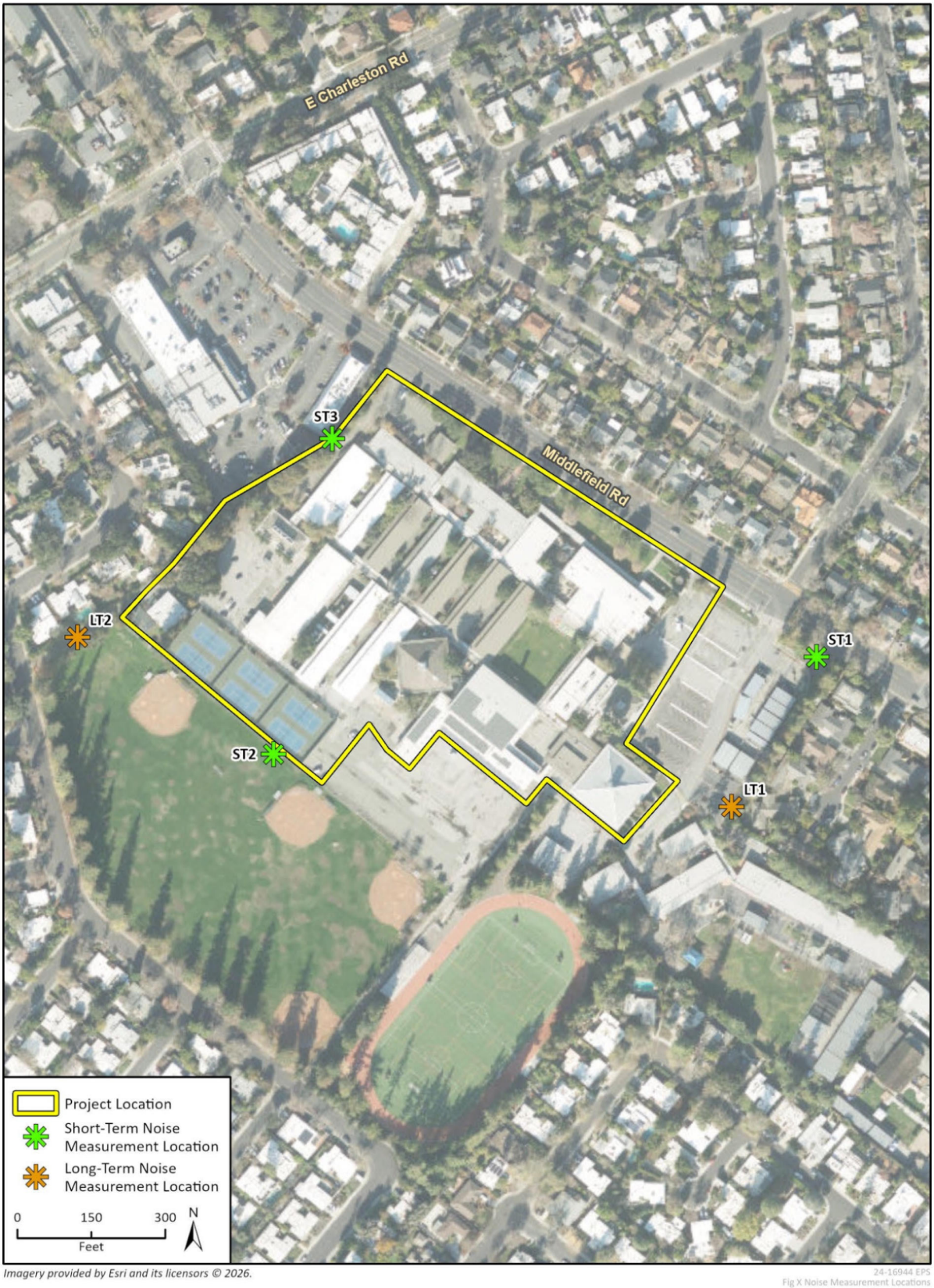
Table 30 Long-Term Noise Measurement Results (LT2)

Sample Time	dBA L_{eq}	Sample Time	dBA L_{eq}
LT2, Near southwestern corner of Plan Area – November 24–25, 2025			
3:00 p.m.	59	3:00 a.m.	44
4:00 p.m.	52	4:00 a.m.	44
5:00 p.m.	52	5:00 a.m.	47
6:00 p.m.	49	6:00 a.m.	53
7:00 p.m.	58	7:00 a.m.	54
8:00 p.m.	49	8:00 a.m.	51
9:00 p.m.	51	9:00 a.m.	51
10:00 p.m.	51	10:00 a.m.	51
11:00 p.m.	49	11:00 a.m.	50
12:00 a.m.	46	12:00 p.m.	53
1:00 a.m.	45	1:00 p.m.	49
2:00 a.m.	47	2:00 p.m.	50
24-hour Noise Level (dBA CNEL)			**56**

dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level; CNEL = Community Noise Equivalent Level

Approximate noise measurement locations are shown in Figure 9. Graphical sound level measurement results are included in Appendix F

Figure 9 Approximate Noise Measurement Locations



REGULATORY SETTING

CITY OF PALO ALTO COMPREHENSIVE PLAN 2030

The Natural Environment Element of the City of Palo Alto Comprehensive Plan 2030 includes goals and policies related to noise intended to reduce adverse noise impacts upon existing sensitive receptors throughout the City. Applicable goals and policies contained within the Natural Environment Element of the City's Comprehensive Plan related to the proposed project are as follows:

Goal N-6: An environment that minimizes the adverse impacts of noise.

Policy N-6.1 Encourage the location of land uses in areas with compatible noise environments. Use the guidelines in [Table 31] to evaluate the compatibility of proposed land uses with existing noise environments when preparing, revising, or reviewing development proposals. Acceptable exterior, interior and ways to discern noise exposure include:

- The guideline for maximum outdoor noise levels in residential areas is an L_{dn} of 60 dB. This level is a guideline for the design and location of future development and a goal for the reduction of noise in existing development. However, 60 L_{dn} is a guideline which cannot necessarily be reached in all residential areas within the constraints of economic or aesthetic feasibility. This guideline will be primarily applied where outdoor use is a major consideration (e.g., backyards in single-family housing developments, and recreational areas in multiple family housing projects). Where the City determines that providing an L_{dn} of 60 dB or lower outdoors is not feasible, the noise level in outdoor areas intended for recreational use should be reduced to as close to the standard as feasible through project design.
- Interior noise, per the requirements of the State of California Building Standards Code (Title 24) and Noise Insulation Standards (Title 25), must not exceed an L_{dn} of 45 dB in all habitable rooms of all new dwelling units.

Table 31 City of Palo Alto Land Use Compatibility for Community Noise Environments

	Exterior Noise Exposure L_{dn} or CNEL, dB		
Land Use Category	**Normally Acceptable[1]**	**Conditionally Acceptable[2]**	**Unacceptable[3]**
Residential, Hotels, and Motels	50-60	60-75	75+
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	50-67.5	67.5-80	80+
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches	50-60	60-75	75+
Office Buildings, Business Commercial, and Professional	50-70	70-80	80+

Land Use Category	Exterior Noise Exposure L_{dn} or CNEL, dB		
	Normally Acceptable[1]	Conditionally Acceptable[2]	Unacceptable[3]
Auditoriums, Concert Halls, and Amphitheaters	N/A	50-75	75+
Industrial, Manufacturing, Utilities, and Agriculture	50-70	70+	N/A

L_{dn} = day-night average sound level; CNEL = Community Noise Equivalent Level; dB = decibels

[1] **Normally Acceptable**: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special insulation requirements.

[2] **Conditionally Acceptable**: Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

[3] **Unacceptable**: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Source: City of Palo Alto Comprehensive Plan 2030, Table N-1 (City of Palo Alto 2017).

Policy N-6.3 Protect the overall community and especially sensitive noise receptors, including schools, hospitals, convalescent homes, senior and childcare facilities and public conservation land from unacceptable noise levels from both existing and future noise sources, including construction noise.

Policy N-6.5 Protect residential and residentially-zoned properties from excessive and unnecessary noise from any sources on adjacent commercial or industrial properties.

Policy N-6.6 Apply site planning and architectural design techniques that reduce overall noise pollution and reduce noise impacts on proposed and existing projects within Palo Alto and surrounding communities.

Policy N-6.7 While a proposed project is in the development review process, the noise impact of the project on existing residential land uses, public open spaces and public conservation land should be evaluated in terms of the increase in existing noise levels for the potential for adverse community impact, regardless of existing background noise levels. If an area is below the applicable maximum noise guideline, an increase in noise up to the maximum should not necessarily be allowed.

Policy N-6.8 The City may require measures to reduce noise impacts of new development on adjacent properties through appropriate means including, but not limited to, the following:

- Orient buildings to shield noise sensitive outdoor spaces from sources of noise.
- Construct noise walls when other methods to reduce noise are not practical and when these walls will not shift similar noise impacts to another adjacent property.

- Screen and control noise sources such as parking lots, outdoor activities and mechanical equipment, including HVAC equipment.
- Increase setbacks to serve as a buffer between noise sources and adjacent dwellings.
- Whenever possible, retain fences, walls or landscaping that serve as noise buffers while considering design, safety and other impacts.
- Use soundproofing materials, noise reduction construction techniques, and/or acoustically rated windows/doors.
- Include auxiliary power sources at loading docks to minimize truck engine idling.
- Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.

Policy N-6.9 Continue to require applicants for new projects or new mechanical equipment in the Multifamily, Commercial, Manufacturing or Planned Community districts to submit an acoustical analysis demonstrating compliance with the Noise Ordinance prior to receiving a building permit.

Policy N-6.11 Continue to prioritize construction noise limits around sensitive receptors, including through limiting construction hours and individual and cumulative noise from construction equipment.

CITY OF PALO ALTO MUNICIPAL CODE

The Palo Alto Municipal Code (PAMC) regulates noise primarily through the Noise Ordinance, which comprises Chapter 9.10 of the PAMC. The Noise Ordinance regulates noise associated with construction activities and operation of stationary mechanical equipment. Section 9.10.030 of the PAMC establishes noise limits for noise produced on residential properties, stating that "[n]o person shall produce, suffer or allow to be produced by any machine or device, or any combination of same, on residential property, a noise level more than six dB above the local ambient at any point outside of the property plane. Section 9.10.040 of the PAMC establishes noise limits for noise produced on commercial and industrial properties, stating that "[n]o person shall produce, suffer or allow to be produced by any machine or device, or any combination of same, on commercial or industrial property, a noise level more than eight dB above the local ambient at any point outside of the property plane." Section 9.10.050 of the PAMC contains provisions related to event noise created on public property, stating that "[s]ound performances and special events not exceeding eighty dBA measured at a distance of fifty feet are exempt from this chapter when approval therefor has been obtained from the appropriate governmental entity."

Section 9.10.060 of the PAMC restricts construction activities to the hours of 8:00 a.m. to 6:00 p.m. Mondays through Fridays and 9:00 a.m. to 6:00 p.m. on Saturdays. Construction is prohibited on Sundays and holidays.[6] In addition to these day and time restrictions, construction, demolition, or repair activities must meet the following standards detailed in Section 9.10.060(b) of the PAMC:

- No individual piece of equipment shall produce a noise level exceeding 110 dBA at a distance of 25 feet. If the device is housed in a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible.
- The noise level at any point outside of the property plane of the project shall not exceed 110 dBA.
- The holder of a valid construction permit for a construction project in a non-residential zone shall post a sign at all entrances to the construction site upon commencement of construction, for the purpose of informing all contractors and subcontractors, their employees, agents, materialmen and all other persons at the construction site, of the basic requirements of this chapter.

Section 9.10.060 also specifies that any noise source which does not produce a noise level exceeding 70 dBA at a distance of 25 feet under its most noisy condition is exempt from the provisions of Sections 9.10.030 and 9.10.040 of the PAMC if the noise produced occurs between the hours of 8:00 a.m. and 8:00 p.m. on Mondays through Fridays, 9:00 a.m. and 8:00 p.m. on Saturdays, and 10:00 a.m. and 6:00 p.m. on Sundays and holidays.

THRESHOLDS OF SIGNIFICANCE

CONSTRUCTION NOISE

In accordance with Section 9.10.060 of the PAMC, construction noise would be significant if noise levels from an individual piece of equipment were to produce a noise level exceeding 110 dBA at a distance of 25 feet and/or if overall construction noise levels were to generate a noise level exceeding 110 dBA at any point outside of the property plane of the project. Construction noise impacts would also be considered significant if construction of the project were to occur outside of the City's allowable hours detailed in Section 9.10.060 of the PAMC, which are between 8:00 a.m. and 6:00 p.m. on Mondays through Fridays and 9:00 a.m. to 6:00 p.m. on Saturdays.

[6] Section 9.10.020 of the PAMC identifies the following as "holidays": New Year's Day (January 1), Martin Luther King Day (the third Monday in January), Washington's Birthday (the third Monday in February), Memorial Day (the last Monday in May), Independence Day (July 4), Labor Day (the first Monday in September), Columbus Day (the second Monday in October), Veteran's Day (November 11), Thanksgiving Day (the fourth Thursday in November), and Christmas Day (December 25).

STATIONARY OPERATIONAL NOISE

In accordance with Section 9.10.040 of the PAMC, operational noise impacts associated with the project's onsite stationary noise sources would be considered significant if these sources were to generate noise levels exceeding the ambient noise level by 6 dBA or more at receiving residential properties and/or 8 dBA or more at receiving commercial/industrial properties.

MOBILE OPERATIONAL NOISE (TRAFFIC)

The City does not establish a quantitative threshold for evaluating traffic noise impacts. Therefore, a significance threshold of 3 dBA was used to evaluate traffic noise impacts associated with operation of the project, as this is the minimum change in noise level that is perceptible to the average human ear (Crocker 2007).

VIBRATION

The City does not establish a quantitative threshold for evaluating vibration impacts. In absence of a quantitative vibration threshold, the construction vibration limits recommended by the FTA in the *Transit Noise and Vibration Impact Assessment Manual* were used, which are shown in Table 32. The thresholds shown in Table 32 represent the limits at which minor architectural damage (i.e., non-structural) may occur to structures of various construction types.

Table 32 FTA Vibration Damage Criteria

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

PPV = peak particle velocity; in/sec = inches per second

Source: FTA 2018.

Based on the vibration thresholds shown in Table 32, vibration impacts associated with construction and operation of the project would be considered significant if vibration levels were to exceed 0.2 in/sec PPV at nearby residential structures.

IMPACT ANALYSIS

a. Would the project result generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

CONSTRUCTION NOISE

Construction of the Master Plan would temporarily generate noise at sensitive receptors in the vicinity of the Plan Area. Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities. Construction of

the Master Plan would be completed in three phases, each generally involving demolition, grading, and new construction activities. Construction noise levels were estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006), which is a computer program that predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Construction noise levels were estimated for all phases of construction based on the equipment listed generated by CalEEMod, prepared as part of the air quality analysis (Section 3, *Air Quality*). Table 33 presents maximum noise levels associated with various equipment that would be used during construction. Maximum noise levels for each piece of equipment are presented at various distances to illustrate how the noise level changes with distance from the equipment.

Table 33 Typical Noise Levels for Construction Equipment

	Estimated Noise Level at Various Distances (dBA L_{max})		
Equipment	**25 feet**	**50 feet**	**100 feet**
Air Compressor	86	80	74
Concrete Saw	96	90	84
Crane	91	85	79
Dozer	91	85	79
Excavator	91	85	79
Generator	88	82	76
Grader	91	85	79
Man Lift	91	85	79
Paver	91	85	79
Roller	91	85	79
Welder	79	73	67

Source: FTA 2018

Using the reference noise levels shown in Table 33, noise levels associated with all phases of construction were estimated at the nearest sensitive receptors. Table 34 presents the estimated construction noise levels. Construction noise levels were conservatively estimated under the assumption that the loudest piece of equipment in each phase would be operating at the nearest work boundary relative to surrounding sensitive receptors.

Table 34 Estimated Construction Noise Levels at Nearest Sensitive Receptors by Phase

Construction Phase	Construction Activity	Nearest Sensitive Receptor	Distance to Nearest Plan Area Boundary (feet)	Construction Noise Level at Boundary of Plan Area and Nearest Sensitive Receptor (dBA L_{max})	Applicable Noise Threshold (dBA L_{max})	Exceeds Threshold?
Phase 1	Demolition	Single-family residences along Nelson Drive	25	96	110	No
	Grading	Single-family residences along Nelson Drive	25	91	110	No
	New Building Construction	Single-family residences along Nelson Drive	90	80	110	No
	Renovation Building Construction	Greendell School	35	88	110	No
	Paving	Single-family residences along Nelson Drive	25	91	110	No
	Architectural Coating	Greendell School	35	83	110	No
Phase 2	Demolition	Single-family residences along Middlefield Road	15	101	110	No
	Grading	Single-family residences along Middlefield Road	15	96	110	No
	Building Construction	Single-family residences along Middlefield Road	15	96	110	No
	Paving	Single-family residences along Middlefield Road	15	96	110	No
	Architectural Coating	Single-family residences along Middlefield Road	15	91	110	No
Phase 3	Demolition	Single-family residences along Middlefield Road	15	101	110	No
	Grading	Single-family residences along Middlefield Road	15	96	110	No
	Building Construction	Single-family residences along Middlefield Road	15	96	110	No

Construction Phase	Construction Activity	Nearest Sensitive Receptor	Distance to Nearest Plan Area Boundary (feet)	Construction Noise Level at Boundary of Plan Area and Nearest Sensitive Receptor (dBA L_{max})	Applicable Noise Threshold (dBA L_{max})	Exceeds Threshold?
	Paving	Single-family residences along Middlefield Road	15	96	110	No
	Architectural Coating	Single-family residences along Middlefield Road	15	91	110	No

dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level

See Appendix F for construction noise modeling results.

As shown in Table 34, maximum noise levels from individual pieces of equipment would not exceed the City's threshold of 110 dBA at a distance of 25 feet away from the equipment in accordance with Section 9.10.060 of the PAMC. Additionally, as shown in Table 34, maximum noise levels generated by construction activities would reach approximately 101 dBA L_{max} at the nearest Project property line during the loudest phases (i.e., during demolition activities associated with Phases 2 and 3). Noise produced by construction activities would not exceed the City's threshold of 110 dBA L_{max} at any of the Plan Area boundaries and would comply with the construction noise level requirements of Section 9.10.060 of the PAMC. Construction noise impacts associated with the Master Plan would be less than significant.

OPERATIONAL NOISE

Operation of the Master Plan would generate noise from new onsite stationary sources (primarily outdoor use areas and mechanical equipment). The Master Plan would also generate noise from offsite mobile sources (i.e., traffic) due to workers and users traveling to and from the site. These operational noise sources are discussed further in the following sections.

STATIONARY ONSITE OPERATIONAL NOISE SOURCES

MECHANICAL EQUIPMENT

Once operational, the Master Plan may include new mechanical equipment such as heating, ventilation, and air conditioning (HVAC) equipment. While not depicted on the concept/site plans, new HVAC equipment is assumed to be located on the rooftop of new proposed buildings. Based on the site plan, new rooftop HVAC equipment on the proposed Maintenance, Service, and Emergency Services building would represent the greatest potential for adverse noise impacts, as this building would be situated nearest to existing sensitive receptors (i.e., single-family residences near the southwest corner of the Plan Area).

This analysis assumes a typical HVAC system for commercial applications: a Carrier WeatherMaker 50FCQM28 unit, which produces a sound pressure level of 78 dBA at a distance of 3.28 feet. Assuming HVAC equipment would be located at the southwest corner of this

proposed one-story building, the direct line-of-sight distance between the equipment and nearest receptor would be approximately 115 feet (when accounting for both the horizontal distance from the equipment to receptor and the vertical distance of the equipment on the rooftop). At a distance of 115 feet, HVAC equipment would generate noise levels up to 47 dBA L_{eq} at the nearest residential property line to the southwest. As discussed in the *Existing Plan Area Ambient Noise* Environment section, the lowest existing daytime and nighttime ambient noise levels at these nearest residences (i.e., measurement location LT2) were 49 and 44 dBA L_{eq}, respectively. Therefore, noise levels generated by proposed HVAC equipment would not increase the existing daytime or nighttime ambient noise environment at these nearest sensitive receptors by 6 dBA or more. Operational noise impacts associated with new mechanical equipment would be less than significant.

OUTDOOR USE AREAS

Operation of the Master Plan would include new outdoor use areas such as a plaza, an outdoor event space, playgrounds, gardens, a pool, and an amphitheater at the center of the site. Noise generated by use of the plaza, playgrounds, gardens, and pool would consist mainly of conversations between people, including talking and laughter, which can produce noise levels up to 65 dBA at a distance of 4 feet (Engineering ToolBox 2004). The closest of these outdoor uses would be located near the southeastern Plan Area boundary (i.e., immediately southwest of the Company Theater building). This outdoor area would be situated approximately 75 feet from the nearest property line adjoining the Plan Area and nearest noise-sensitive use (i.e., the Greendell School). At a distance of 75 feet, noise generated by use of this outdoor area would be approximately 40 dBA L_{eq} at the nearest Plan Area boundary. As discussed in the *Existing Plan Area Ambient Noise* Environment section, the lowest existing daytime ambient noise level at the Greendell School (i.e., measurement location LT1) was 48 dBA L_{eq}. Noise generated by use of this nearest outdoor use area is assumed to only occur during typical daytime hours and would not exceed the existing daytime ambient noise environment at the nearest noise-sensitive use by 6 dBA or more. Other outdoor use areas would be situated farther from nearby sensitive receptors and would also not generate noise levels exceeding applicable thresholds at the nearest sensitive receptors. Operational noise impacts associated with these outdoor use areas would be less than significant.

The Project would also include an amphitheater at the center of the site, located immediately north of Building I (Performing Arts). According to information contained in the Master Plan, the amphitheater would be used for concerts (including orchestras, small ensembles, and rock bands), dance performances, and theater productions. Details regarding the layout, types, and quantities of speakers (or other sound amplification equipment) are not available at this stage of design; however, based on the intended use of the amphitheater, there is potential for noise generated by concerts and other performances to generate substantial levels of noise at nearby sensitive receptors. Therefore, impacts are potentially significant. In accordance with the provisions of Section 9.10.050 of the PAMC, Mitigation Measure NOI-1 is required to ensure operational noise produced by use of the amphitheater complies with applicable noise thresholds.

MOBILE OFFSITE OPERATIONAL NOISE (TRAFFIC)

During operation, implementation of the Master Plan would also generate new noise in the form of traffic increases due to workers and users of the Project traveling to and from the site. Based on the Master Plan, vehicular access would be provided along Middlefield Road, therefore traffic increases are assumed to occur primarily on this roadway. According to the most recent traffic count data published by the City, the segment of Middlefield Road immediately west of San Antonio Road has an average daily traffic (ADT) volume of 14,578 vehicles (City of Palo Alto 2016b). According to trip generation information provided by the transportation consultant, the Project would generate 2,882 daily trips (Hexagon Transportation Consultants 2026). Traffic noise increases were estimated using the following formula, which is based on the principle that a doubling of traffic volumes (or combined noise level from two identical sources) results in a noise increase of 3 dBA:

$$Traffic\ Noise\ Increase = 10 * LOG(\frac{Project - Generated\ Traffic\ Volume}{Existing\ Traffic\ Volume})$$

An increase of 2,882 daily vehicle trips on Middlefield Road would result in a noise increase of approximately 0.8 dBA, which would not exceed the significance threshold of a 3 dBA or greater noise increase. Operational noise impacts associated with traffic noise increases would be less than significant.

MITIGATION MEASURES

To reduce operational noise impacts related to use of the amphitheater, the following mitigation measure is required.

NOI-1 Prepare and Enforce Amphitheater Noise Level Performance Standard Prior to and During Operation. Prior to the first event held at the amphitheater with amplified noise, the City shall create a Sound Amplification Design Plan to minimize special event noise at nearby sensitive receptors by instituting a performance standard to not exceed 80 dBA at a distance of 50 feet from the speakers (in accordance with Section 9.10.050 of the PAMC). Design measures may include, but are not limited to, bandwidth and peak limiter installation, and speaker angle and directivity techniques. Speaker and equipment settings (i.e., volume, equalization levels, etc.) shall be maintained for subsequent special events for continued compliance with the City's noise thresholds. In addition, the appropriate permit shall be obtained prior to each special event/performance held at the amphitheater.

SIGNIFICANCE AFTER MITIGATION

Implementation of Mitigation Measure NOI-1 would require a noise level performance standard for events held at the amphitheater. Compliance with this noise level performance standard would exempt noise generated by concerts and performance events held at the amphitheater from the noise regulations specified in Section 9.10.050 the PAMC, as long as the appropriate event permit is obtained prior to each event. Operational noise impacts associated with use of the amphitheater would be less than significant with mitigation.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Implementation of the Master Plan would not include new sources of substantial operational vibration (e.g., rail or heavy industrial operations). Thus, construction activities would have the greatest potential to generate ground-borne vibration affecting nearby receptors. Based on the equipment list generated by CalEEMod as part of the Air Quality analysis, the greatest sources of vibration would include large offroad equipment during earthmoving activities and a static roller during paving activities. Neither blasting nor pile driving would be required for buildout of the Master Plan. Typical vibration levels produced by these equipment types are presented in Table 35.

Table 35 Typical Vibration Levels Generated by Various Types of Construction Equipment

Equipment	Reference Vibration Level at 25 feet (in/sec PPV)
Large[1] Earthmoving Equipment (e.g., Backhoe, Dozer, Excavator, Grader, etc.)	0.089
Static Roller	0.05

in/sec = inches per second; PPV = peak particle velocity

[1] "Large" in this context refers to equipment rated at 100 horsepower (hp) or greater.

Source: FTA 2018; IR McIver 2012.

Based on the Master Plan, large earthmoving equipment and a roller are expected to be used as close as approximately 20 feet from the nearest off-site residential structures (i.e., the single-family residences along Nelson Drive, located near the southwest corner of the Plan Area). At this distance, large earthmoving equipment and a static roller would generate vibration levels up to 0.124 and 0.070 in/sec PPV at these nearest residential structures, which would not exceed the FTA's recommended vibration threshold of 0.2 in/sec PPV for residential structures. Temporary vibration impacts associated with construction of the Master Plan would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The airports nearest to the Plan Area are the Palo Alto Airport (located approximately 2.5 miles to the north) and Moffett Field (located approximately 3 miles to the east). According to the Comprehensive Land Use Plan prepared for each airport, the Plan Area is located outside of the 2022 noise contours of both airports (Santa Clara County Airport Land Use Commission 2008; Santa Clara County Airport Land Use Commission 2012). Therefore, users and workers of the Master Plan would not be exposed to excessive airport-related noise levels. No impact would occur.

NO IMPACT

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts:				
a. 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)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

SETTING

According to the Department of Finance (DOF), the City of Palo Alto has a current 2025 population of 68,794 (DOF 2025). The City of Palo Alto Housing element identifies a per-person household rate of 2.6 (City of Palo Alto 2024).

PALO ALTO HOUSING ELEMENT

The California State Legislature has identified the attainment of a decent home and suitable living environment for every citizen as the State's major housing goal. Recognizing the important role of local jurisdictions in the pursuit of this goal, the Legislature has mandated that every city and county prepare a Housing Element as part of its Comprehensive Plan. The Housing Element specifies ways in which the housing needs of existing and future residents can be met. Consistent with State Housing Element laws, it must be updated every eight years.

This Housing Element covers a period extending from adoption to 2031 and builds on the progress made under previous Palo Alto Housing Elements. The 2023-2031 Housing Element was prepared pursuant to Article 10.6 of the Government Code (State Housing Element Law) and presents a comprehensive set of housing policies and actions. It builds on an assessment of Palo Alto's housing needs including the regional housing needs allocation and an evaluation of existing housing programs, available land for future housing, and addresses constraints on housing production.

The following goals and policies are from the Housing Element and apply to the proposed project (City of Palo Alto 2024):

Goal H1: Ensure the preservation of the unique character of residential neighborhoods and preserve affordable housing units to support adequate housing opportunities for residents.

- **Policy H1.1** Promote the sustainable rehabilitation of deteriorating of substandard residential housing using energy-efficient approaches.
- **Policy H1.2** Collaborate with property owners and nonprofit housing providers to preserve at-risk multi-family housing and extend affordability covenants whenever feasible.
- **Policy H1.4** Ensure the retention or in-kind replacement of lower-income units identified for potential redevelopment.

Goal H3: Support strategic., holistic housing development with varied housing types, prices, tenures, densities, and locations to meet diverse needs of residents.

- **Policy H3.1** Support mixed-use infill development on suitable sites to optimize urban services and support transit use.
- **Policy H3.2** Provide appropriately zoned sites to support both affordable and market-rate housing development.
- **Policy H3.3** Prioritize funding for housing near public transit and services, and for the rehabilitation or in-kind replacement of existing affordable housing.

Goal H4: Provide for a government environment that facilitates housing development.

- **Policy H4.2** Streamline development and environmental review to reduce project delays and costs.

IMPACT ANALYSIS

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Master Plan would not involve the extension of roads or other infrastructure that could directly or indirectly induce population growth. The project does not include new residential units and therefore would not generate population growth through housing development.

The Master Plan would introduce a mix of community uses, including recreation and wellness facilities, performing arts venues, visual arts spaces, education and community services space, and indoor and outdoor gathering areas. Operation of these facilities is anticipated to require approximately 71 employees, which represents an increase of an estimated 44 employees compared to existing conditions. These employees would likely be drawn primarily from the local labor force. While some individuals may relocate to the area for employment opportunities, this increase would not represent a substantial change in regional employment or population growth.

Overall, the project would not induce substantial unplanned population growth, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

There are no existing housing units on the Plan Area or people residing in temporary housing Therefore, the project would not displace existing housing units or people. No impact would occur.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts:				
c. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	■	☐
ii. Police protection?	☐	☐	■	☐
iii. Schools?	☐	☐	■	☐
iv. Parks?	☐	☐	☐	■
v. Other Public Facilities	☐	☐	☐	■

SETTING

FIRE PROTECTION

Fire protection services for the Plan Area are provided by the Palo Alto Fire Department (PAFD). The PAFD responds to all fires, hazardous materials spills, and medical emergencies (including injury accidents) in Palo Alto. In addition to the PAFD's primary service area, the City has entered into mutual aid and automatic aid agreements with the City of Menlo Park, CAL FIRE, the Central County Fire Department (CCFD), the City of Mountain View, and the Woodside Fire Protection District. These agreements call for the department with crews closest to the incident to respond to the call (City of Palo Alto 2016a). The fire station closest to the Plan Area is Station #4 (Mitchell Park), located 0.5 mile northwest of the Plan Area at 3600 Middlefield Road.

POLICE PROTECTION

Police protection services in Palo Alto are provided by the Palo Alto Police Department (PAPD). The Police Department also administers the Public Safety Answering Point (PSAP) 911 Communications Center, serving the city as well as Stanford University and other areas covered by the City's public safety organizations, public works, utilities, animal services, and other

departments. In addition to law enforcement protection services, PAPD provides animal services, including a spay and neuter clinic and a pet adoption program, and State-mandated animal control services. The PAPD has also cooperated with other agencies in the region for joint purchases, including a police records management system and field-based reporting applications in partnership with the cities of Mountain View and Los Altos (City of Palo Alto 2016a). PAPD has two police stations located at 275 Forest Avenue approximately 4 miles northwest of the Plan Area and at 250 Sherman Avenue approximately 3 miles northwest of the plan area.

SCHOOLS

The Plan Area is within the jurisdiction of the Palo Alto Unified School District (PAUSD). The school district includes twelve K-5 schools, three grade 6-8 schools, and three grade 9-12 schools. According to the California Department of Education, total enrollment across the school district during the 2024-2025 school year is 10,271 students (Department of Education 2025).

LOCAL REGULATIONS

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to public services and apply to the proposed Plan (City of Palo Alto 2017a):

Policy C-1.8 Ensure that public facilities comply or exceed Americans with Disabilities Act (ADA) requirements.

Policy C-1.10 Provide services for seniors at convenient locations that are accessible to public transit, parking and pedestrian and bicycle travel.

Policy C-1.11 Increase access to educational, recreational and cultural services by continuing to provide financial assistance programs for residents with low incomes and/or disabilities.

Policy C-1.12 Maintain an effective, collaborative relationship with the PAUSD to optimize the use of school services and facilities for public benefit, particularly for children, youth, teens, seniors and people with disabilities.

Policy C-1.16 Provide arts, science and recreational activities that foster healthy children, youth and teen development.

Policy C-1.18 Support existing senior programs and seek opportunities to expand programs, including programs promoting health, life-long learning, recreation, arts and cultural experiences designed for seniors at all public community facilities and parks.

IMPACT ANALYSIS

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The proposed Master Plan would increase the intensity of development within the Plan Area. However, the Plan Area is within the PAFD's service area and is currently serviced by the PAFD. In addition, the proposed Master Plan would be consistent with the existing recreational uses associated with the Cubberley Community Center and therefore the Plan would not result in a substantial increase in call volume or the need for substantial additional fire protection services. The closest fire station to the Plan Area is Station #4 located at 3600 Middlefield Road. This fire station is currently under reconstruction to better serve community needs. The project would not require the addition of staff or new fire protection facilities. Implementation of the Master Plan would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The proposed Master Plan would increase the intensity of development within the Plan Area. However, the Plan Area is within the PAPD's service area and is currently serviced by the PAPD. In addition, the proposed community center would be consistent with the existing uses in the Plan Area and would not result in substantially increased need for safety and police services. To evaluate the impacts of the project on police protection services and facilities, City staff corresponded with Captain Zach Perron of the PAPD. PAPD concluded that the project would not warrant the construction of new police protection facilities. Development of the proposed Master Plan would thus not create the need for new or expanded police protection facilities and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The proposed Master Plan would not include any new or replacement school facilities or administrative buildings for PAUSD. As such, the project would not result in the need for new or

physically altered schools, and no construction related to school facilities would occur as part of the Master Plan. There would be no impact.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Refer to Section 16, *Recreation.*

LESS THAN SIGNIFICANT IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Master Plan would allow for the construction of a new and expanded public community center to serve the City of Palo Alto. The community center would offer space and services for city residents and visitors, including health and fitness facilities, outdoor and indoor recreation space, and art studios. Since the project would allow the provision of improved public facilities, it would not result in the need for additional new or altered facilities. There would be no impact.

NO IMPACT

16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts:				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	■	☐

SETTING

Over one-third of Palo Alto's land area consists of open space preserves. The City owns and operates approximately 36 parks and preserves, comprised of 162 acres of urban parks and 4,000 acres of open space (City of Palo Alto 2017d). The City's estimated population is 68,794 residents (DOF 2025). Therefore, the ratio of urban parks to residents in Palo Alto is 2.35 acres of parkland for every 1,000 residents and the ratio of open space to residents in the City is 58.14 acres of parkland for every 1,000 residents. The existing Cubberley Community Center includes outdoor recreational space, including two large sports fields. The Master Plan Area is also approximately 0.2 miles east of Mitchell Park and Michell Park Library.

LOCAL REGULATIONS

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to recreation and apply to the proposed Plan (City of Palo Alto 2017a):

Policy C-5.2 Promote access to programs that enhance and increase the physical and mental health, well-being, recreation, safety and cultural opportunities of all residents and visitors.

Policy C-3.3 Maintain and enhance existing park and recreation facilities consistent with the adopted Parks, Trails, Open Space and Recreation Master Plan, as amended, which is incorporated here by reference.

Program C3.3.1 Periodically evaluate how parks and recreational facilities are being used and develop strategies for improving their use overall.

IMPACT ANALYSIS

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed Master Plan would not include the construction of housing and therefore would not directly result in population growth that could increase demand on existing recreational facilities. The project would increase the number of employees on site by an estimated 44 employees. This amount of employment increase would not substantially increase the use of parks or recreational facilities throughout the area. Further, the project itself is a Master Plan to improve and expand the Cubberley Community Center. It is anticipated that employees could utilize the community amenities in the Plan Area and sports facilities and adjacent to the Plan Area. No impact would occur.

NO IMPACT

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed Master Plan would include new indoor and outdoor recreational facilities. These facilities would replace and expand existing recreational facilities associated with the Cubberley Community Center. New buildings would include meeting areas, gyms, and visual arts areas, and other community center uses. The Master Plan would also include newly designed outdoor space, including community gardens and groves, play areas, tennis courts, and a dog park. However, as described in Sections 1 through 21 of this document, implementation of the Master Plan, with the incorporation of mitigation, would not result in significant environmental impacts. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts:				
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	■	☐	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	■	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	■	☐	☐
d. Result in inadequate emergency access?	☐	■	☐	☐

This section is based primarily on the Transportation Analysis prepared by Hexagon Transportation Consultants in 2026 (Appendix G).

TRANSPORTATION SETTING

EXISTING ROADWAY NETWORK

Regional access to the Plan Area is provided by US 101. Local access to the Plan Area is provided via San Antonio Road, Middlefield Road, Charleston Road, and Alma Street. Major regional and local access routes in the project area include:

- US 101 is a north-south freeway that extends through and beyond the Bay Area, connecting San Francisco to San Jose. US 101 is ten lanes wide with three mixed-flow lanes and two high-occupancy vehicle (HOV) lanes in each direction in the vicinity of the Plan Area. US 101 provides access to the study area via interchanges at San Antonio Road and Old Middlefield Way.
- San Antonio Road is an east-west arterial that extends eastward from Foothill Expressway and terminates at the eastern edge of the City at Terminal Boulevard. Within the vicinity of the project, San Antonio Road is four lanes wide and is divided by a raised center median. It has a posted speed limit of 35 miles per hour (mph). Sidewalks are present on both sides of the street. In the project vicinity, marked sharrows designating a bike route are present north of Middlefield Road. On-street parking is generally prohibited on both sides of the street except at designated areas between Charleston Road and Middlefield Road.

- Middlefield Road is a north-south arterial that runs parallel to US 101. It begins at the intersection of Central Expressway in Mountain View and runs north through Redwood City. Within the vicinity of the Plan Area, Middlefield Road is four lanes wide, with sidewalks on both sides of the street. Middlefield Road has a posted speed limit of 25 mph. Bike lanes are present on both sides of the street except between Montrose Avenue and San Antonio Road. On-street parking is permitted along both sides of Middlefield Road in the project vicinity. Middlefield Road runs along the eastern boundary of the Plan Area and provides direct access to the site via two full-access driveways.
- Charleston Road is generally an east-west arterial that begins east at its interchange with US 101 and extends west towards the intersection with El Camino Real, at which point it transitions to Arastradero Road. Because it intersects with both San Antonio Road and Middlefield Road, its approaches at San Antonio Road are considered as north-south. Charleston Road has two lanes in each direction except west of Fabian Way where it has one lane in each direction. In the project vicinity, sidewalks are present on both sides of the street. Bike lanes are present on both sides of the street west of Fabian Way. Charleston Road has a posted speed limit of 25 mph. On-street parking is generally prohibited except between Grove Avenue and Montrose Avenue in the project vicinity.
- Alma Street is a north-south arterial that extends southward from El Camino Real at Sand Hill Road and terminates at San Antonio Road where it becomes Central Expressway continuing south to Mountain View and beyond. Alma Street has two lanes in each direction in the project vicinity and runs alongside the Caltrain railway tracks. Alma Street has a posted speed limit of 35 mph. In the project vicinity, sidewalks are only present on the east side of the street. There are no existing bike facilities on Alma Street, and on-street parking is prohibited in the project vicinity.

EXISTING PEDESTRIAN FACILITIES

A complete network of sidewalks is present along the streets in the vicinity of the Plan Area, including Middlefield Road, San Antonio Road, and E. Charleston Road. Crosswalks with pedestrian signal heads are located at the signalized intersections of Middlefield Road/E. Charleston Avenue and Middlefield Road/San Antonio Road. Crosswalks with pedestrian signal heads also are provided along the east and south legs of the Middlefield Road/Montrose Avenue intersection. The existing network of sidewalks and crosswalks allow pedestrians to access nearby points of interest, including residential areas, retail shops, and bus stops (Appendix G).

EXISTING BICYCLE FACILITIES

The bicycle facilities that exist within one mile of the Plan Area include multi-use trails (Class I bikeway), striped bike lanes (Class II bikeway), shared bike routes (Class III bikeway), and protected bike lanes (Class IV bikeway). The Permanente Creek trail runs from the North Bayshore Area north of US 101 to W. Middlefield Road in the south. The trail is shared between pedestrians and bicyclists and separated from motor vehicle traffic. The trail includes an overcrossing at US 101 and an underpass at Old Middlefield Way in the project area. Access to

the trail is available from Colony Street, just south of US 101, and at Charleston Road, north of US 101. Striped bike lanes are present along the following street segments in the Plan Area vicinity:

- E. Charleston Road, for the entire street (buffered intermittently)
- W. Middlefield Road, south of Old Middlefield Way
- Middlefield Road, west of Montrose Avenue

Bike routes are typically designated with sharrows (shared-lane pavement markings), and bikes may take the travel lane. A bike route is designated with sharrows along N. Rengstorff Avenue, between E. Charleston Road and Rengstorff Avenue and along San Antonio Road, between Middlefield Road and E. Charleston Road.

EXISTING TRANSIT FACILITIES

Existing public transit services in the project area are provided by the Santa Clara Valley Transportation Authority (VTA). VTA bus routes serving the project area are: Local Route 21, School Route 288, and the ACE Orange Shuttle. Commuter rail service between San Francisco and Gilroy is provided by Caltrain. The Plan Area is located approximately 0.8 miles north of the San Antonio Caltrain station. Caltrain provides service with approximately 20- to 30-minute headways during the weekday morning and afternoon commute hours and 60-minute headways midday, at nights and on weekends. Sidewalks exist on the route between the Plan Area and the Caltrain station. VTA Bus Route 21 also provides connection between the Plan Area and the Caltrain station.

REGULATORY SETTING

STATE SENATE BILL 743

Senate Bill (SB) 743 was signed into law by Governor Brown in 2013 and tasked the State Office of Planning and Research (OPR), now the Office of Land Use and Climate Innovation (LCI), with establishing new criteria for determining the significance of transportation impacts under the CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." It also states that alternative measures of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

On September 27, 2013, California Governor Jerry Brown signed SB 743 into law and started a process that changes transportation impact analysis as part of CEQA compliance. SB 743 requires LCI to identify new metrics for identifying and mitigation transportation impacts within CEQA. In January 2018, LCI transmitted its proposed CEQA Guidelines implementing SB 743 to the California Natural Resources Agency for adoption, and in January 2019 the Natural Resources Agency finalized updates to the CEQA Guidelines, which incorporated SB 743 modifications, and are now in effect SB 743 changed the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (Public Resource Code, § 21099

(b)(2)). In addition to new exemptions for projects consistent with specific plans, the CEQA Guidelines replaced congestion-based metrics, such as auto delay and level of service, with VMT as the basis for determining significant impacts, unless the Guidelines provide specific exceptions.

CALIFORNIA BUILDING CODE

California provides minimum standards for building design through the California Building Code (CBC), which is located in Part 2 of Title 24 of the California Code of Regulations. The CBC is based on the 1997 Uniform Building Code with modifications specific for California conditions. The CBC provides fire and emergency equipment access standards for public roadways, which include specific width, grading, design and other specifications for roads which provide access for fir apparatuses. Street modifications in the City of Palo Alto are subject to these and other modified State standards.

2030 COMPREHENSIVE PLAN

The Transportation Element of the City's 2030 Comprehensive Plan (City of Palo Alto 2017a) contains several goals and policies pertaining to the improvement of transportation facilities and reducing project impacts. The following goals, policies, and programs apply to the project:

Policy T-1.2 Collaborate with Palo Alto employers and business owners to develop, implement and expand comprehensive programs like the TMA to reduce single-occupant vehicle commute trips, including through incentives.

Program T1.2.3 Formalize TDM requirements by ordinance and require new developments above a certain size threshold to prepare and implement a TDM Plan to meet specific performance standards. Require regular monitoring/reporting and provide for enforcement with meaningful penalties for non-compliance. The ordinance should also: […] Require new development projects to pay a Transportation Impact Fee for all those peak-hour motor vehicle trips that cannot be reduced via TDM measures. Fees collected would be used for capital improvements aimed at reducing vehicle trips and traffic congestion.

Policy T-1.17 Require new office, commercial, and multi-family residential developments to provide improvements that improve bicycle and pedestrian connectivity as called for in the 2012 Palo Alto Bicycle + Pedestrian Transportation Plan.

Policy T-5.1 All new development projects should manage parking demand generated by the project, without the use of on-street parking, consistent with the established parking regulations. As demonstrated parking demand decreases over time, parking requirements for new construction should decrease.

Policy T-5.6 Strongly encourage the use of below-grade or structured parking, and explore mechanized parking instead of surface parking for new developments of all types while minimizing negative impacts including on groundwater and landscaping where feasible.

Policy T-5.7 Require new or redesigned parking lots to optimize pedestrian and bicycle safety.

PALO ALTO MUNICIPAL CODE: TITLE 10 VEHICLES AND TRAFFIC

PAMC Title 10 regulates vehicle and traffic operations within the City, which includes traffic-control devices, pedestrian safety, bicycle safety and designated bike paths, and general vehicle and traffic safety.

IMPACT ANALYSIS

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

d. Would the project result in inadequate emergency access?

CONSTRUCTION TRAFFIC

Construction of the buildings in the Master Plan would involve typical activities related to the construction of any similar development, which could include lane narrowing and/or lane closures, sidewalk and pedestrian crosswalk closures, and bike lane closures. Per standard City of Palo Alto Standard Conditions of Approval for projects with work that would affect the public right of way, the project applicant or representative would be required to submit a construction logistics plan for approval by the City's Public Works and Transportation staff that addresses the construction schedule, street closures and/or detours, construction staging areas and parking, and the planned truck routes. The City's Standard Condition of Approval states:

> **Logistics Plan**: A construction logistics plan shall be provided addressing all impacts to the public including, at a minimum: work hours, noticing of affected businesses, bus stop relocations, construction signage, dust control, noise control, storm water pollution prevention, job trailer, contractors' parking, truck routes, staging, concrete pours, crane lifts, scaffolding, materials storage, pedestrian safety, and traffic control. All truck routes shall conform to the City of Palo Alto's Trucks and Truck Route Ordinance, Chapter 10.48, and the route map. Some items/tasks on the logistics plan may require an encroachment permit..

In the event of a closure, clear signage (e.g., closure and detour signs) must be provided to ensure vehicles, pedestrians and bicyclists are able to adequately reach their intended destinations safely. With adherence to standard City requirements, construction-related traffic impacts would be less than significant.

TRANSIT SERVICES

The Plan Area is served directly by VTA Local Route 21. Other bus routes in the project vicinity include School Route 288 and the ACE Orange Shuttle, which are a school route and a commuter route, respectively. Local Route 21 operates along Middlefield Road and San Antonio Road in the project vicinity and provides service between the Stanford Shopping Center and the Santa Clara Transit Center. Local Route 21 also connects the San Antonio Caltrain Station to the project site. The closest bus stops for Local Route 21 are located near the intersection of Middlefield Road and Montrose Avenue, which is near the southeast corner of the project limits. During the peak commute periods, the headway on Route 21 is approximately 30 minutes. The close proximity to transit could incentivize future employees and visitors to utilize transit. It is not anticipated that the project would create demand for transit services such that service would be substantially affected. Further, the Plan Area does not involve off-site improvements that would conflict with transit services. This impact would be less than significant.

BICYCLE FACILITIES

Class II striped bike lanes are present on Middlefield Road and Charleston Road in the project vicinity. Bicycle access to the Plan Area provided via Middlefield Road and Nelson Drive. The Master Plan proposes bicycle-oriented pathways that would connect the project frontage to the center of the community center campus. Additionally, bicyclists could use the shared-use path from Nelson Drive that connects to the community center core. The draft *Palo Alto Bicycle and Pedestrian Transportation Plan Update* identifies several planned bicycle improvement projects in the vicinity including:

- Class IV Separated bikeways along San Antonio Road, Fabian Way, and Middlefield Road
- Class IIIb Bicycle Boulevard along Nelson Drive, Shasta Drive, Mackay Drive, Creekside Drive, Duncan Place, and Carlson Court
- Enhancement of bicycle boulevard crossing of the Nelson Drive crossing of E. Charleston Road
- Enhancement of bicycle boulevard crossing of the Carlson Court crossing of E. Charleston Road
- Intersection improvements at Middlefield Road/E. Charleston Road
- Intersection improvements at Middlefield Road/San Antonio Road

The Master Plan would not conflict with planned future improvements identified in the *Palo Alto Bicycle and Pedestrian Transportation Plan Update.* This impact would be less than significant.

PEDESTRIAN FACILITIES

Pedestrian access to the project site is provided via Middlefield Road and Nelson Drive. The Master Plan proposes walkways from the sidewalk along Middlefield Road that would connect

key community spaces, plazas, and open areas. The draft *Palo Alto Bicycle and Pedestrian Transportation Plan Update* identifies the San Antonio Road area as a potential area for a pedestrian district. Pedestrian districts prioritize walking, slower movement, and a connected sidewalk network as sites redevelop. Potential future improvements near the San Antonio Road area could include raised crossings, wider sidewalks, bike corrals, and gateway/wayfinding. These improvements would be implemented as redevelopment occurs in the San Antonio Road area. The Master Plan would not conflict with planned future improvements identified in the *Palo Alto Bicycle and Pedestrian Transportation Plan Update.* This impact would be less than significant.

The Cubberley Master Plan is under development and detailed design plans are not yet available. The final design, including roadway widths and access points could be changed with progress in the site development plans. Hexagon Transportation Consultants reviewed the proposed vehicle site access and on-site circulation review is based on the conceptual circulation plan (see Figure 8). Site access was evaluated to determine the adequacy of the proposed project access points with regard to the following: traffic volume, vehicle queues, geometric design, and stopping sight distance. On-site vehicular circulation and parking layout were reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

DESIGN HAZARDS AND EMERGENCY ACCESS

Hexagon Transportation Consultants completed a review of the proposed conceptual site plan (Figure 4) and provided recommendations that relate to hazards and emergency access. Therefore, impacts related to design hazards and emergency access are potentially significant and Mitigation Measure TRA-1 is required.

MITIGATION MEASURES

TRA-1 Design Hazards and Emergency Access Improvements. Prior to issuance of building permits for the Master Plan, the City shall complete the recommendations outlined in the Transportation Analysis completed in February 2026 by Hexagon Transportation Consultants, including the following:

- The project access points shall be designed so that there is adequate sight distance ensuring that exiting vehicles can see pedestrians on the sidewalk and vehicles and bicycles traveling along Middlefield Road. Similarly, on-site parking lot exits should be clear of any obstructions.
- The final design shall ensure any landscaping and signage is located in such a way to ensure an unobstructed view for drivers exiting driveways.
- The final site design shall ensure minimum 20-foot-wide drive aisles for emergency vehicle access and no dead-end aisles longer than 150 feet.
- The final site design shall ensure adequate curb radii is provided so that emergency vehicles can travel through the project site and turn into and out of the project site.

SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measure TRA-1, impacts related to new hazards resulting from a geometric design feature proposed by the Master Plan or inadequate emergency access created by implementation of the Master Plan would be reduced to a less than significant level.

Additionally, the transportation analysis identified several recommendations for improving site access and circulation, including:

- The project shall construct additional lanes at both driveways for outbound traffic.
- The project should install a left-turn lane at both driveways for inbound traffic as part of a center two-way left-turn lane installation.
- A traffic signal should be installed at the northern unsignalized project driveway.
- Loading zones shall be provided for community center tenants with large deliveries and the café uses.
- Short-term bicycle racks should be provided throughout the project site. The bicycle racks should be provided in convenient locations close to building entrances.

These do not relate to an impact under CEQA, as they would not be required to address an impact related to a new hazard resulting from a geometric design feature proposed by the project or inadequate emergency access created by the project. Further, these are identified as recommendations based on full build-out of the Master Plan. The City's Office of Transportation is evaluating these recommendations further to understand how these would be implemented and to evaluate the appropriate phase of buildout at which these improvements should be implemented. However, whether these recommendations are implemented or not, impacts would be less than significant with the incorporation of requirements set forth in Mitigation Measure TRA-1.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Senate Bill (SB) 743 and CEQA Guidelines section 15064.3 require that transportation impacts be evaluated based on VMT thresholds rather than level of service. Pursuant to SB 743, the City of Palo Alto has adopted VMT guidelines in June 2020, replacing level of service thresholds with VMT thresholds for transportation analysis. The OPR recommends a screening criteria for projects that would have a less than significant VMT impact without conducting VMT analysis. These criteria include:

- Small developments
- Projects in low-VMT areas
- Projects near major transit stops
- Affordable housing

- Local-serving retail or public-serving facilities
- Transportation projects

The Cubberley Master Plan proposes to expand a city-owned community center containing a mix of indoor and outdoor spaces, including recreation facilities, performing arts venues, visual arts spaces, community services, and gathering areas. Community centers are not classified under traditional land uses such as residential, office, or retail. However, based on the characteristics of the proposed program spaces, Hexagon Transportation Consultants concludes that the project is most similar to a local-serving public facility, which behaves like local-serving retail for VMT screening purposes.

While the total building area will increase by approximately 100,000 square feet, individual leasable/program spaces are generally less than 10,000 square feet. Many patrons of the community center would visit a single tenant of the community center, and the community center would not exhibit characteristics of a larger retail (shopping center or mall) development, which may attract regional visitors. Therefore, each individual leasable space within the community center could be considered to have similar characteristics of local-serving retail less than 10,000 square feet, which typically redistributes trips that would have otherwise driven farther for a similar land-use.

Based on the characteristics of the proposed community center expansion, including the locally oriented nature of the uses and the generally small size of individual program spaces, Hexagon Transportation Consultants concludes that the Master Plan meets the City's local-serving retail/public-serving facility screening criterion. Projects that qualify for this screening category are presumed to result in a less-than-significant VMT impact under CEQA (Hexagon Transportation Consultants 2026). Therefore, the project would not conflict with CEQA Guidelines section 15064.3. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either 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 that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	■	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	■	☐

TRIBAL CULTURAL RESOURCES SETTING

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074(a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Rincon contacted the NAHC on February 10, 2025, to request a search of the SLF, as well as a contact list of Native Americans culturally affiliated with the project area. On March 18, 2025, the City sent letters to 21 Native American contacts in the area to request information on potential cultural resources in the project vicinity that may be impacted by project development. Follow up calls and emails were conducted on March 21, 2025, to the Tamien Nation, March 24, 2025, to the Indian Canyon Mutsun Band of Costanoan, April 4, 2025, to The Ohlone Indian Tribe, April 5, 2025, to the Costanoan Rumsen Carmel Tribe, and May 1, 2025, to the Amah Mutsun Tribal Band of Mission San Juan Bautista.

On March 31, 2025, Chairwoman Quirina Geary from the Tamien Nation, responded via letter requesting tribal consultation and expected to begin consultation within the 30 days of receipt of the letter. On May 15, 2025, the City scheduled a meeting with the Tamien Nation in which they did not present themselves. Follow-up calls to Tamien Nation on May 15, 2025 and May 19, 2025 were unanswered. The City sent an email to the Tamien Nation on September 15, 2025, outlining their outreach efforts and requested a response to the communication by October 1, 2025, if they still wished to consult on the project or consultation would be closed. They did not respond. The City did not receive any other responses from Native American Tribes or persons. The consultation described above did not result in the identification of cultural resources in the Plan Area or its vicinity. Appendix H provides the results of the City's outreach effort.

IMPACT ANALYSIS

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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 2024.1?*

Although no tribal cultural resources are expected to be present on-site, there is the possibility of encountering undisturbed subsurface tribal cultural resources. The proposed grading of the Plan Area could potentially result in significant impacts on unanticipated tribal cultural resources. However, future development in the Plan Area would be subject to the City's Standard Conditions of Approval related to the unanticipated discovery of tribal cultural resources and human remains. The City's Standard Conditions of Approval state:

Unanticipated discovery of buried archaeological, paleontological, and tribal cultural resources. No known archeological or paleontological resources are present on or within the immediate vicinity of the site. However, in the unlikely event that an archeological resource or paleontological resource is unearthed during ground disturbing activities, work in the immediate area must be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is Native American in origin, then a Native American representative must also be contacted to participate in the evaluation of the find. The qualified archaeologist, and, if applicable, the Native American representative, shall examine the find and make recommendations regarding additional work necessary to evaluate the significance of the find and the appropriate treatment of the resource. Recommendations could include, but are not limited to, invasive or non-invasive testing, sampling, laboratory analysis, preservation in place, or data recovery. A report of findings documenting any data recovered during monitoring shall be prepared by a qualified archaeologist and submitted to the Director of Planning prior to final planning inspection.

Prior to commencement of any project-related construction activities, a qualified Archaeologist hired by the applicant shall provide a worker environmental awareness training to all site personnel that addresses cultural and tribal cultural resources. The training shall discuss the appearance of resources that may be encountered during construction as well as the procedures and notification process in the event of discovery.

Discovery of human remains. Pursuant to Section 7050.5 of the Health and Safety Code, and Section 5097.94 of the Public Resources Code of the State of California in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the Native American Heritage Commission (NAHC) who shall attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the landowner shall reinter the human remains, and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. If the Director of Planning, in consultation with the archaeologist and Native American representative, finds that the archaeological find is not a significant resource, work would resume only after the submittal of a preliminary archaeological report and after provisions for reburial and ongoing monitoring are accepted by the Director of Planning.

Adherence to these Standard Conditions of Approval would ensure proper handling of tribal cultural resources and human remains of Native American origin should unanticipated finds occur during construction. With compliance with standard City requirements, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	■	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
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?	☐	☐	■	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

SETTING

POTABLE WATER

Since 1962, Palo Alto's potable water supply has come from the San Francisco Public Utilities Commission (SFPUC). In 1999, the City began to prepare a Water Integrated Resources Plan, and it was approved in 2017. Supplies from the SFPUC were found to be adequate in normal years, but additional supplies are needed in drought years to avoid shortages. The City completed the Emergency Water Supply and Storage project in 2015 that would provide the flexibility to maintain basic water service and fire flows if a catastrophic interruption of SFPUC service occurred. The City is also a participating agency on the Bay Area Water Supply and Conservation Agency's Long-Term Reliable Water Supply Strategy to meet the projected water

needs of its member agencies and their customers through 2035 and to increase their water supply reliability under normal and drought conditions (City of Palo Alto 2017f).

The City of Palo Alto attempts to address issues of water supply in its Urban Water Management Plan (UWMP) (City of Palo Alto 2020b). According to the UWMP, the City of Palo Alto has analyzed three different hydrological conditions to determine the reliability of water supplies: average/normal water year, single dry water year, and multiple, dry water year periods. In each of the three hydrological conditions, the projected water demand was calculated taking into account growth in billing data, water conservation efforts, and demographics. The UWMP states that the City of Palo Alto can reliably meet the projected water demand in each of the hydrological conditions through 2045 (City of Palo Alto 2021).

Table 36 shows the projected City water supply and demand through the year 2045 according to the City's UWMP.

Table 36 City of Palo Alto Supply/Demand Balance (AFY)

	2020	2025	2030	2035	2040	2045
Demand	10,921	11,287	11,394	11,546	11,801	12,113
Supply	18,579	18,579	18,579	18,579	18,579	18,579
Difference	7,658	7,292	7,185	7,033	6,778	6,466

Source: City of Palo Alto 2021, Table 26

AFY = acre-feet per year

WASTE WATER

The City of Palo Alto Utilities Department (CPAU) oversees a wastewater collection system consisting of over 208 miles of sewer lines. The City operates the Regional Water Quality Control Plant (RWQCP), which has primary treatment (bar screening and primary sedimentation), secondary treatment (fixed film reactors, conventional activated sludge, clarification and filtration), and tertiary treatment (filtration through a sand and coal filter and UV disinfection). Wastewater is routed to RWQCP, where it is treated prior to discharge into the San Francisco Bay. While the CPAU is responsible for the wastewater collection system, the Palo Alto Public Works Department is responsible for the collection/conveyance of sewage collected and delivered to the RWQCP.

The RWQCP is designed to have an average dry weather flow capacity of 39 million gallons per day (MGD) with full tertiary treatment, and a peak wet weather flow capacity of 80 MGD with full secondary treatment. Current 2020 average flows are approximately 17.24 MGD (City of Palo Alto 2021). Therefore, the current available capacity of the RWQCP is approximately 22 MGD. The plant capacity is sufficient for current dry and wet weather loads and for future load projections. The RWQCP does not experience any major treatment system constraints and has no planned capacity expansions. Approximately 220,000 people live in the RWQCP service area. Of the wastewater flow to the RWQCP, about 60 percent is estimated to come from residences, 10 percent from industries, and 30 percent from commercial businesses and institutions. All of the wastewater treated at the RWQCP can be recycled. The plant already has some capability to

produce recycled water that meets the Title 22 unrestricted use standard (approximately 4.5 MGD of capacity) (City of Palo Alto 2021).

STORMWATER

Palo Alto's storm drainage system contains over 550,000 linear feet of pipelines, ranging from 8 to 96 inches in diameter. The storm drains collect stormwater and convey it primarily to San Francisquito, Matadero, Barron, and Adobe creeks. These creeks ultimately discharge the stormwater to San Francisco Bay. The Santa Clara Valley Water District oversees countywide programs for flood protection and stormwater management. For local lines that connect to the creeks, the City maintains a Storm Drain Master Plan that recommends improvements be made over a 30-year horizon.

SOLID WASTE

The City of Palo Alto contracts with GreenWaste of Palo Alto for collection of garbage, recycling, and composting services in the city. GreenWaste transports waste to the Sunnyvale Materials Recovery and Transfer Station. From there, landfill waste is disposed of at the Kirby Canyon Landfill, a private facility owned by Waste Management Inc. As of July 2015, the Kirby Canyon Landfill has a remaining capacity of 16,191,600 tons. The landfill's daily permitted capacity is 2,600 tons per day (CalRecycle 2018a). According to the latest Disposal Facility Inspection Report in 2018, the landfill averages approximately 600 to 800 tons per day, while the peak daily disposal was 1,251 tons (CalReycle 2018b). Therefore, there is substantial capacity at Kirby Canyon Landfill, based both on permitted daily tonnage and total remaining landfill capacity.

LOCAL REGULATIONS

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the surrounding area and city as a whole. The following are specific to utilities and service systems and apply to the proposed Plan (City of Palo Alto 2017a):

Policy L-9.11 Provide utilities and service systems to serve all urbanized areas of Palo Alto and plan infrastructure maintenance and improvements to adequately serve existing and planned development.

Policy L-9.12 Recognize the importance of regional infrastructure, such as the Regional Water Utility Infrastructure owned by the San Francisco Public Utilities Commission (SFPUC).

Policy S-1.9 Design Palo Alto's infrastructure system to protect the life and safety of residents, ensure resiliency in the face of disaster and minimize economic loss, including in the context of climate change and sea level rise.

Policy S-1.11 Ensure continuity of critical City operations, including utilities, public safety, information technology, and others, after natural, technological or human caused disasters.

IMPACT ANALYSIS

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

As shown in Table 1, the proposed Master Plan would involve a net increase of approximately 100,000 square feet of community-oriented uses in the Plan Area. The increase in development would increase demand for potable water and generate wastewater.

Palo Alto's Utilities UWMP does not list wastewater generation factors. Therefore, wastewater generation rates from the City of Los Angeles were used to estimate the amount of wastewater that would be generated by the proposed project (City of Los Angeles 2006). To provide a conservative estimate, wastewater generation was calculated using the rate for office uses of 150 gallons per 1,000 square feet per day. Based on this factor, the project would generate approximately 15,000 gallons of wastewater per day (100,000 square feet/1,000 square feet x 150 gallons per day). This represents 0.015 percent of the RWQCP's available capacity of 22 MGD. Therefore, the RWQCP would have sufficient remaining capacity to accommodate the project's wastewater flows well beyond current and projected throughput levels.

The development envisioned in the proposed Master Plan would also increase demand for potable water. Assuming that water use is approximately 120 percent of wastewater generation, the project would generate net new demand of approximately 18,000 gallons per day, or 20.16 acre-feet per year (AFY).

According to the Palo Alto's UWMP, the City can reliably meet projected water demand through 2045 under normal, single-dry, and multiple-dry year conditions, with a surplus of over 6,000 AFY under all scenarios. Therefore, sufficient water supplies and wastewater treatment capacity are available, and no new or expanded off-site facilities would be required.

Given that the development envisioned in the proposed Master Plan would increase wastewater generation and water usage in the City of Palo Alto, the project may also result in the need for new or upgraded infrastructure throughout the city, including water and wastewater pipes, and power lines. However, planning and building permits required for the development envisioned in the Master Plan would be subject to review by City of Palo Alto Utilities Engineering staff. Plans for such permits would be required to show the size and location of all underground and above-ground utilities within the development and the adjoining public right-of-way, including meters, backflow preventers, fire service requirements, sewer mains, sewer cleanouts, and other structures required for electric service. Prior to approval of permits, City staff would require any system upgrades or modifications to ensure

that utility and service systems would be capable of handling the new development. In addition, specific impacts related to electric power and natural gas are evaluated in Section 6, *Energy*, and specific impacts related to stormwater infrastructure are evaluated in Section 10, *Hydrology and Water Quality*. Finally, given that implementation of the Master Plan involve intensification of uses within an already developed urban area of Palo Alto, it would be sufficiently served by existing telecommunication facilities. Impacts from the development allowed in the proposed Master Plan on existing utility infrastructure would be less than significant. The Master Plan would therefore not result in a substantial physical deterioration of public water facilities or result in adverse physical impacts from new or expanded utility facilities due to increase use as a result of the project. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Using the CalRecycle generation factor for public/institutional uses of 0.007 pounds per square foot per day (CalRecycle 2019), the project would generate approximately 700 pounds per day of solid waste (0.007 pounds per square foot per day x 100,000 square feet). Assuming a 50 percent diversion rate, the net solid waste sent to the landfill would be approximately 350 pounds per day, or 0.16 tons per day. The Kirby Canyon Landfill has a remaining disposal capacity of approximately 16,191,600 tons, and the project's incremental increase of 0.16 tons per day would represent a negligible fraction of that remaining capacity. This additional waste would not impair the attainment of solid waste reduction goals. The project would comply with applicable federal, state, and local regulations related to solid waste management.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in any of the following impacts?				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	■
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

SETTING

The Plan Area is within an urban area in Palo Alto. The Plan Area is bordered by existing multi-family residential, commercial, and recreational uses. According to the City's Natural Environment Chapter of the Comprehensive Plan, the Plan Area is not adjacent to or within the vicinity to wildlands. According to CAL FIRE maps, the Plan Area is not located or in the vicinity of a moderate, high, or very high Fire Severity Zone (CAL FIRE 2024). As a result, there would be no risk of exposing people or structures to a significant risk of loss, injury or death involving wild land fires.

REGULATORY SETTING

2030 COMPREHENSIVE PLAN

The 2030 Comprehensive Plan includes Land Use Goals, Policies, and Programs that guide the form of future development in Palo Alto and help tie individual projects to the vision for the

surrounding area and city as a whole. The following are specific to wildfire and apply to the proposed project (City of Palo Alto 2017a):

Goal S-2: Growth Management: Protection of life, ecosystems and property from natural hazards and disasters, including earthquake, landslide, flooding, and fire.

Policy S-2.1 Incorporate the City's Local Hazard Mitigation and Adaptation Plan (LHMP), as periodically adopted by the City Council and certified by the Federal Emergency Management Agency (FEMA), into the Safety Element. In the event of any conflict between the provisions of the LHMP and any other provision of the Safety Element, the LHMP shall control.

Policy S-2.2 Focus efforts to reduce exposure to natural hazards in areas of the city identified as vulnerable to the greatest risks, as shown on the maps in this Element.

Policy S-2.3 Implement public safety improvements, such as access roads and other infrastructure, in a manner that is sensitive to the environment.

Policy S-2.6 Promote seismic rehabilitation and renovation of existing buildings, particularly those whose loss would have the greatest community impacts, using incentives as a way to ensure safe and structurally sound buildings.

Policy S-2.13 Minimize exposure to wildland and urban fire hazards through rapid emergency response, proactive code enforcement, public education programs, use of modern fire prevention measures and adequate emergency management preparation.

Policy S-2.14 Require that the planning and design of development in areas exposed to wildland fire hazards minimize the risks of wildfire and include adequate provisions for vegetation management, emergency access and firefighting.

Policy S-2.15 Provide emergency fire and medical services consistent with the response time standards set forth in the Fire Department's annual budget.

Policy S-2.16 Expand Palo Alto Fire Department's efforts in public education and community outreach to prevent injury, loss of life, and damage to property from accidental fires.

IMPACT ANALYSIS

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The Plan Area is not located in or near a Fire Hazard Severity Zone or Very High Hazard Severity Zone for wildland fires (CAL FIRE 2024). The nearest Very High Hazard Severity Zone is located 4.8 miles south of the Plan Area. Therefore, there would be no impacts related to wildfire and further analysis is not warranted.

NO IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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)?	☐	■	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

a. Does the project have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As noted under Section 4, *Biological Resources*, implementation of the Master Plan may affect nesting birds protected under the MBTA. However, with implementation of the City's Standard Condition of Approval related to nesting bird protections, impacts would be less than significant. All other impacts related to fish or wildlife species or populations would be less than significant or no impact would occur. The Master Plan would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

As discussed in Section 5, *Cultural Resources*, the demolition and construction associated with the Master Plan would not eliminate important examples of the major periods of California history or prehistory. There are no known cultural, archeological, or tribal cultural resources in the Plan Area. As discussed in Section 7, *Geology and Soils,* excavation at depths greater than 18 feet would involve removal of soils beyond the alluvial fan deposits which could result in the discovery of paleontological resources. However, with implementation of Mitigation Measure GEO-2 in the event that fossil discoveries are unearthed during ground-disturbing activities, impacts would be less than significant. Overall, with mitigation to address paleontological resources, the project would not eliminate important examples of the major periods of California history or prehistory.

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b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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)?

The following includes a list of planned and pending development near the Plan Area (City of Palo Alto 2025):

- Housing Incentive Program Expansion and 788 San Antonio Road Mixed-Use Project – zoning amendment to allow higher-density residential development and Mixed-Use Project (0.3 mile north of Plan Area)
- 808 San Antonio Road, Palo Alto – zoning amendment to permit construction of a 175-unit residential building (0.35 mile northeast of Plan Area)
- 824 San Antonio Road, Palo Alto – architectural review to permit construction of a 4-story senior living facility (0.38 mile northeast of Plan Area)
- 762 San Antonio Road, Palo Alto – architectural review to permit construction of a 7-story multi-family residential building (0.3 mile northeast of Plan Area)
- 4015 Fabian Way, Palo Alto – construction of 100 residential apartment units (0.33 miles north of Plan Area)

Cumulative impacts are addressed in the individual topical sections above: Air Quality, Greenhouse Gas Emissions, and Utilities and Service Systems (*CEQA Guidelines* Section 15064[h][3]). For these issue areas, cumulative impacts were found to be less than significant (not cumulatively considerable).

Some of the other resource areas were determined to have no impact in comparison to existing conditions and therefore would not contribute to cumulative impacts, such as those related to mineral resources and agricultural resources. As such, cumulative impacts in these issue areas would also be less than significant (not cumulatively considerable).

A cumulative aesthetic impact would only occur if cumulative projects would result in substantial visual changes from public viewpoints around the Plan Area or from adjacent development which would see a substantial change in public views. There are no planned or

pending projects within the immediate vicinity of the Plan Area such that the proposed Master Plan in combination with other projects would result in cumulative aesthetic impacts. The Plan, in combination with cumulative projects, may result in cumulative increases in lighting or glare such that views of the nighttime sky may result. However, compliance with PAMC requirements would require that projects under the Plan shield and direct lighting towards the Plan Area such that cumulative light spillover would not substantially affect nighttime views. Therefore, the proposed Master Plan would not contribute to significant cumulative impacts related to aesthetics.

The Master Plan would involve renovation and infill development in an urban area on a site that is currently developed and does not contain special-status species or habitat. Cumulative projects also involve infill development on urban sites. Overall, the project would not significantly contribute to a cumulative impact related to the loss of habitat or loss of special-status species. Like the proposed project, cumulative development would be required to comply with local tree preservation requirements to protect the overall urban forest for development in Palo Alto.

Cumulative development involves projects on areas identified as moderately sensitive for cultural resources; therefore, cumulative development may disturb areas that may potentially contain cultural or tribal cultural resources. The proposed Master Plan would not impact cultural or tribal resources. Impacts associated with cultural resources are typically addressed on a case-by-case basis. Therefore, significant cumulative resource impacts would not occur.

Cumulative development would not increase population and would not increase the number of people exposed to potential geological hazards, including effects associated with seismic events such as ground rupture and strong shaking. Conformance with the current CBC, other laws and regulations mentioned above, and Mitigation Measure GEO-1 would further ensure that project-specific impacts associated with geology and soils would be less than significant. Further, with implementation of Mitigation Measure GEO-1, the project would not result in significant impacts related to the destruction of paleontological resources. Impacts associated with paleontological resources are typically addressed on case-by-case basis depending on the paleontological sensitivity of the project site and potential for fossils to be discovered. Overall, potential impacts associated with geology and soils would therefore not be cumulatively considerable, and cumulative impacts related to geologic hazards would be less than significant.

Cumulative development includes recreational uses which do not typically involve the use or storage of large quantities of hazardous materials, other than those typically used for cleaning, maintenance, or landscaping. Therefore, cumulative impacts related to the use, transport, or disposal of hazardous materials would be less than significant. Overall, hazards and hazardous materials impacts associated with individual developments are site specific in nature and must be addressed on a case-by-case basis. Since hazards and hazardous materials are required to be examined as part of the permit application and environmental review process, it is anticipated that potential impacts associated with individual projects will be adequately addressed and mitigated prior to permit approval. With adherence to existing local, regional, state, and federal regulations, no significant cumulative human health impacts are anticipated.

Prior to approval and implementation of any physical changes that conflict with the Comprehensive Plan, the City would be required to adopt a Comprehensive Plan Amendment or alter plans for the physical changes to conform to applicable zoning goals and policies in the Comprehensive Plan. All other pending and future projects in Palo Alto would be required to adhere to their respective city's applicable zoning and development regulations and Comprehensive Plan policies to mitigate environmental impacts where feasible. The project in combination with listed cumulative projects would not result in significant cumulative impacts with respect to consistency with land use plans.

The listed cumulative projects would generate temporary noise and vibration during construction and noise typical of their proposed use during operation. However, construction noise and vibration and operational noise are localized and rapidly attenuate in an urban environment. The closest project is 0.2 miles away. At that distance, it is not anticipated that cumulative noise impacts would occur should multiple projects become under construction or operation simultaneously. While cumulative growth in traffic volumes on roadways near the Plan Area would likely increase traffic noise, depending on the number of net new trips associated cumulative projects, vehicle trips generated by the project are incremental such that the project would not considerably contribute to future traffic noise increases.

The proposed Master Plan would not involve new residential uses and would have no direct or indirect impact on population growth. Therefore, the project would not contribute to potential population increases throughout Palo Alto and the region.

The proposed Master Plan and cumulative development involve development on urban infill sites that are within the service areas for existing public services such as fire and police protection services. Although growth overall would contribute to the need for expanded public services, existing local regulations and policies ensure that capacity issues are addressed as they arise. It is not anticipated that cumulative development would increase the need for public services such that new or expanded facilities would be required resulting in significant environmental effects. No significant cumulative impacts would occur.

Cumulative development in the City would continue to increase wastewater generation, water use, and solid waste generation which would affect City-provided utilities. As discussed in this document, the City's UWMP estimates water supply and demand for the City to 2035, including cumulative future development in the City. Water demand would be adequate to meet the City's needs; therefore, no cumulative impact would occur.

Implementation of the proposed Master Plan would require approximately 0.015 percent of the existing unused capacity of the Regional Water Quality Control Plant and would contribute 0.16 tons of solid waste per day to the Kirby Canyon Landfill. These incremental increases would not be cumulatively considerable.

LESS THAN SIGNIFICANT IMPACT

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, traffic safety, geologic hazards, noise, and wildfire impacts. As detailed in the preceding responses, with implementation of Mitigation Measure AQ-1, the proposed project would not result, either directly or indirectly, in adverse impacts related to air quality. Impacts related to hazards and hazardous materials would be reduced to a less than significant level with incorporation of Mitigation Measure HAZ-1. In addition, temporary construction noise and vibration impacts would be less than significant and operational noise impacts would not result in a substantial adverse effect on human beings with adherence to Mitigation Measure NOI-1. Further, with implementation of Mitigation Measure TRA-1, impacts related to traffic safety and emergency access would be less than significant and impacts related to geologic and soil hazards would be reduced with implementation of Mitigation Measure GEO-1. Lastly, the project is not in an area subject to wildfire hazards. Overall, with mitigation, the project would not have environmental effects which would cause substantial adverse effects on human beings.

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