Draft

Initial Study/Mitigated Negative Declaration

Bay Trail Connection at Ravenswood Open Space Preserve

September 2016

Midpeninsula Regional Open Space District
330 Distel Circle Los Altos, CA 94022

Notice of Intent to Adopt a Mitigated Negative Declaration

A notice, pursuant to the California Environmental Quality Act of 1970, as amended (Public Resources Code 21,000, et sec.) that the following project will not have a significant effect on the environment.

File Number	TAZ	APN(s)	Date
NA	NA	093-590-060, 093-590-050, 093-590-030, 063-590-060, 055-471-999	September 30, 2016

Project Name	Project Type (Use)
Bay Trail Connection at Ravenswood Open Space Preserve	A public trail easement and implementation of the Bay Trail Connection at the Ravenswood Open Space Preserve (the "Project").
Owner	**Applicant**
Midpeninsula Regional Open Space District (MROSD) San Francisco Public Utilities Commission (SFPUC) County of San Mateo Caltrans	Midpeninsula Regional Open Space District

Project Location

The project site is located east of University Avenue, south of the San Mateo County Transit District's Dumbarton railroad line, north of the University Village residential neighborhood in the City of East Palo Alto, and west of the existing San Francisco Bay Trail in the Ravenswood Open Space Preserve in the City of Menlo Park.

Project Description

The proposed project includes several components:

1. Transfer of a public trail easement from the SFPUC property to MROSD.
2. MROSD's adoption of a Preliminary Use and Management Plan for the trail easement.
3. Potential future transfer of the public trail easement from MROSD to another public agency.
4. Design, permitting, and construction of the new Bay Trail segment.
   The proposed new segment of the Bay Trail would connect University Avenue to the Ravenswood Open Space Preserve. The route would be approximately 3,000 feet in length, eight to 14 feet wide (including shoulders), within a 20-foot wide trail easement corridor. The trail would consist of a paved surface over an existing service road, and bridges (one or two) and boardwalk over wetlands and a pond.
5. Operation of the new Bay Trail segment with extended trail use hours for Bay Trail commuters.
   This will include installation of signage at trailhead at University Avenue to notify the public of the hours of operation and trail regulations, including the prohibition of dogs on the trail and extended trail use hours for Bay Trail commuters. Signage would also be posted on a newly installed fence separating the public trail and SFPUC Ravenswood Valve Lot to notify the public that trespassing onto the adjacent private property is prohibited.
6. Maintenance of the new Bay Trail segment.
7. Resurfacing of approximately 3,600 linear feet (0.7 miles) of the existing Bay Trail segment in Ravenswood Open Space Preserve.

MROSD anticipates that construction would not commence until 2018 at the earliest and the duration of construction is estimated to be approximately 22 weeks. It is anticipated that the construction sequence would be as follows: The first four weeks would consist of mobilization and site preparation. The next 17 weeks would consist of trail striping on the service road, construction of paved trail segments, boardwalk and bridge construction, resurfacing of the existing trail segment and

plantings. The last week would include site cleanup and demobilization. Trail construction equipment would include a striping machine, road grader, small excavator, skip loader, power auger, weed mower and various hand tools (e.g. power drills, skill saws, and hammer). Bridge segments would be delivered to the construction site using large trucks. Cranes would then be required to place the bridge segment on the support abutments. The boardwalk would be constructed using hand tools and light weight construction equipment.

Purpose of Notice

The purpose of this notice is to inform you that MROSD has recommended that a Mitigated Negative Declaration be approved for this project. MROSD has reviewed the Initial Study for the project, and based upon substantial evidence in the record, finds that the proposed project could not have a significant effect on the environment with implementation of mitigation measures.

Public Review Period:	**Begins: September 30, 2016**	**Ends: November 1, 2016 at 5:00 PM**

Public Comments regarding the correctness, completeness, or adequacy of this mitigated negative declaration are invited and must be received on or before the end of the public review period. Such comments should be based on specific environmental concerns. Written comments should be addressed to the Midpeninsula Regional Open Space District, 330 Distel Circle, Los Altos, CA 94022 or by email at: glaustsen@openspace.org. For additional information regarding this Mitigated Negative Declaration, please contact Gretchen Laustsen at 650-691-1200.

Public Meeting/Hearing:	**Date: November 16, 2016**	**Time: 7:00 PM**	**Place:** Costano Elementary School Gym

A public hearing for the proposed project is tentatively scheduled for the MROSD Board of Directors on November 16, 2016 at 7:00 PM at the Costano Elementary School Gym located at 2695 Fordham Street in East Palo Alto. Is should be noted that the approval of a Mitigated Negative Declaration does not constitute approval of the project under consideration. The decision to approve or deny the project will be made separately.

The Negative Declaration and Initial Study may be viewed at the following locations:

(1) Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022
(650) 691-1200
(2) MROSD website at: www.openspace.org
(3) East Palo Alto Library
2415 University Avenue
East Palo Alto, CA 94303
(650) 321-7712
(4) Menlo Park City Library
413 Ivy Drive
Menlo Park, CA 94025
(650) 330-2540

Responsible Agencies sent a copy of this document:

San Francisco Public Utilities Commission
US Fish and Wildlife
US Army Corps of Engineers
Regional Water Quality Control Board
California Department of Fish and Wildlife
San Francisco Bay Conservation and Development Commission
City of East Palo Alto
City of Menlo Park
Caltrans
County of San Mateo
County of Santa Clara

Significant effects on the environment (or lack thereof):
The project would not result in significant impacts to aesthetics, agricultural resources, geology and soils, greenhouse gas emissions, land use, mineral resources, population and housing, public services, recreation, transportation, utilities and service systems.
Mitigation Measures included in the project to reduce potentially significant impacts to a less than significant level:
With the implementation of the mitigation measures included in the proposed project and described in the air quality, biological resources, cultural resources, hazards and hazardous materials, and hydrology and water quality sections, the proposed project would not result in significant adverse environmental impacts.
A reporting or monitoring program must be adopted for measures to mitigate significant impacts at the time the Negative Declaration is approved, in accord with the requirements of section 21081.6 of the Public Resources Code.

Prepared by:

Gretchen Laustsen, Planner III — **Date** 9/29/2016

Approved by:

Ana Ruiz, AICP, Assistant General Manager — **Date** 9/29/2016

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SECTION 1.0 INTRODUCTION AND PURPOSE

This Initial Study of environmental impacts is being prepared to conform to the requirements of the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations 15000 et. seq.), and the regulations and policies of the Midpeninsula Regional Open Space District (MROSD). This Initial Study evaluates the potential environmental impacts which might reasonably be anticipated to result from implementation of the Bay Trail Connection at the Ravenswood Open Space Preserve (the "Project").

The MROSD is the Lead Agency under CEQA and has prepared this Initial Study to address the impacts of implementing the proposed project. The purpose of the project is to complete a short segment of the San Francisco Bay Trail (Segment 2092). This document may also be used by responsible and trustee agencies for various discretionary actions associated with implementation of the project as described in Section 2.7 *Project-related Approvals, Agreements, and Permits.*

Where appropriate, this Initial Study is tiered from the Environmental Impact Report (EIR) for the Ravenswood/4 Corners Transit-Oriented Development (TOD) Specific Plan (City of East Palo Alto, 2012) Report (State Clearinghouse No. 2011052006), in accordance with CEQA Guidelines Sections 15152 and 15168 and Public Resources Code Section 21094. The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program level EIR, with subsequent focused environmental documents for individual projects that implement the program. The Ravenswood/4 Corners Transit-Oriented Development (TOD) Specific Plan EIR and other documents incorporated by reference in this Initial Study are available for public review at MROSD offices at 330 Distel Circle, Los Altos, California, 94022.

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Bay Trail Connection at Ravenswood Open Space Preserve

2.2 PROJECT LOCATION

The project site is located east of University Avenue, south of the San Mateo County Transit District's Dumbarton railroad line, north of the University Village residential neighborhood in the City of East Palo Alto, and west of the existing San Francisco Bay Trail in the Ravenswood Open Space Preserve in the City of Menlo Park (refer to Figures 2.2-1, 2.2-2, and 2.2-3).

2.3 LEAD AGENCY CONTACT

Gretchen Laustsen, Open Space Planner III
Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos, CA 94022
(650) 691-1200

2.4 PROPERTY OWNERS

Midpeninsula Regional Open Space District
San Francisco Public Utilities Commission
County of San Mateo
Caltrans

2.5 ASSESSOR'S PARCEL NUMBERS

San Francisco Public Utilities Commission

- 093-590-060 (portion), 093-590-050 (portion), and 093-590-030

Midpeninsula Regional Open Space District

- 063-590-060 (portion)

Caltrans

- 055-471-999

Public right-of-way, University Avenue/Tulane Avenue (portion)

2.6 ZONING DISTRICT AND GENERAL PLAN DESIGNATIONS

Zoning Districts: ROS (Ravenswood Open Space) – City of East Palo Alto

FP (Flood Plain District) – City of Menlo Park

General Plan Designations: Resource Management – City of East Palo Alto
Non-Urban - City of Menlo Park

2.7 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

As listed below, the proposed project requires a number of approvals, actions, and permits from multiple public agencies. In accordance with CEQA, the information contained in this Initial Study will be utilized, as applicable, by these agencies in conjunction with their respective roles for the project.

Midpeninsula Regional Open Space District (Lead Agency)

- Acceptance of Grant of Trail Easement
- Adoption of Preliminary Use and Management Plan for the Trail Easement
- Conveyance of Trail Easement to another appropriate jurisdiction to construct and/or operate the trail

San Francisco Public Utilities Commission (Responsible Agency)

- Approval of Grant of Trail Easement

U.S. Fish and Wildlife Service/National Marine Fisheries Service

- Endangered Species Act Section 7 Consultation

U.S. Army Corps of Engineers

- Section 404 Nationwide Permit

Regional Water Quality Control Board

- Section 401 Water Quality Certification
- NPDES Permit

California Department of Fish and Wildlife

- Section 1602 Lake and Streambed Alteration Agreement

San Francisco Bay Conservation and Development Commission

- BCDC Permit

City of East Palo Alto (Responsible Agency)

- Use Permit
- Clearing and Grading Permit
- Tree Removal Permit
- Demolition Permit
- Building Permit

- C.3 Municipal Regional Permit

City of Menlo Park

- Building Permit

County of Santa Clara

- Approval of Project Funding Agreement to Address Alternative Mitigation Resulting from the Loss of Recreational Opportunities due to Development Resulting from Stanford University's 2000 General Use Permit.

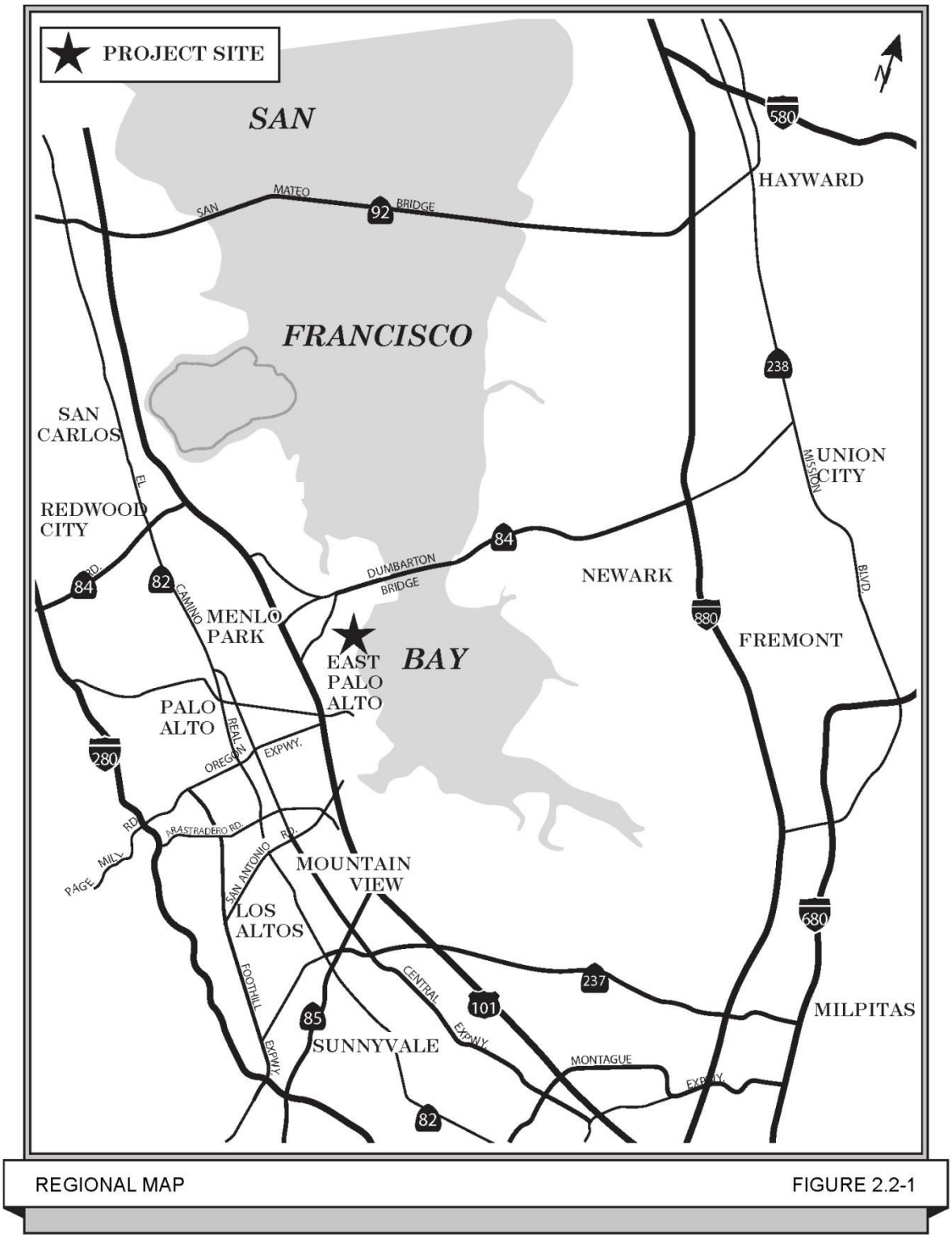
County of San Mateo

- Approval of Project Funding through Measure A Grant.

Caltrans (Responsible Agency)

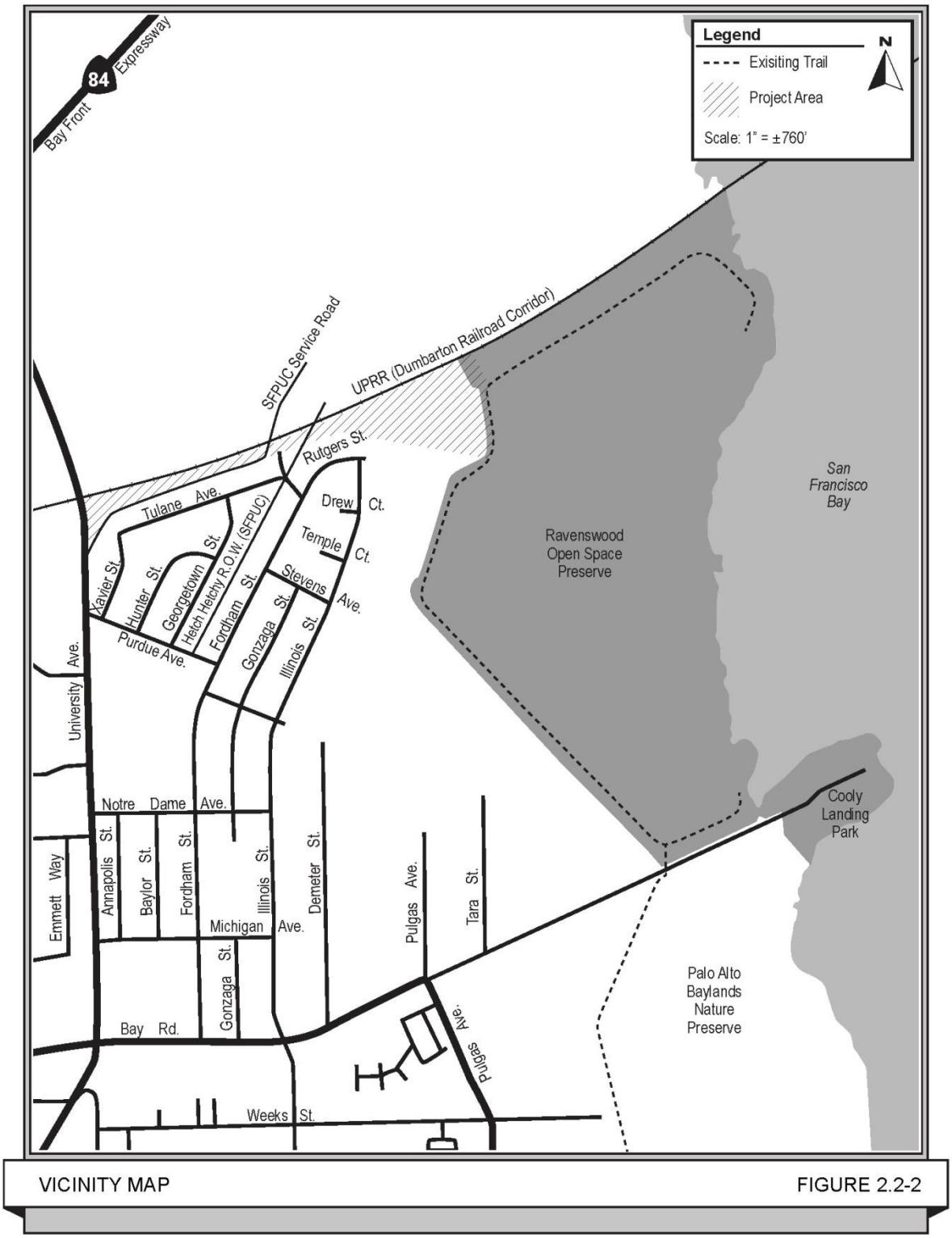
- Right of Way (ROW) Encroachment Permit
- Permit or license to use Caltrans ROW for trail connection at University Ave and construction access

Figure 2.2-1: Regional Map



REGIONAL MAP FIGURE 2.2-1

Figure 2.2-2: Vicinity Map



VICINITY MAP FIGURE 2.2-2

AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

FIGURE 2.2-3

SECTION 3.0 PROJECT DESCRIPTION

3.1 BACKGROUND

3.1.1 Overview of the San Francisco Bay Trail

In 1989, the Association of Bay Area Governments (ABAG) adopted the Bay Trail Plan. The Plan set forth the route and policies for the development of the San Francisco Bay Trail, a 500-mile shoreline walking and bicycling path that will one day encircle the Bay. Since 1989, over 340 miles of the Bay Trail have been completed, following the shoreline in nine counties, passing through 47 cities and crossing four-and-a half toll bridges. The Bay Trail provides accessible recreational opportunities for outdoor enthusiasts, including hikers, joggers, bicyclists, and skaters. It also has important transportation benefits, providing a commute alternative for cyclists including a bicycle crossing of the Dumbarton Bridge.

3.1.2 Development of the Bay Trail Connection at Ravenswood Open Space Preserve

ABAG's San Francisco Bay Trail Project Gap Analysis Study identifies the Ravenswood Bay Trail gap (Segment 2092) as a short missing link in the Bay Trail on the San Francisco Peninsula. This missing link is located between the existing on-street bicycle lane on University Avenue and the existing unpaved multipurpose trail in the MROSD's Ravenswood Open Space Preserve.

Over the years, various planning studies have been prepared by the City of Menlo Park, City of East Palo Alto, MROSD and the San Francisco Public Utilities Commission (SFPUC) within the project area.

In 2005, the Bay Trail Feasibility Study was prepared by the City of Menlo Park to compare several trail alignment alternatives for completing this trail gap. After considering community and regulatory agency feedback, the final feasibility study proposed a Preferred Plan that showed the trail traversing a roughly 0.5 mile long narrow corridor owned by the SFPUC between the Dumbarton rail line and the City of East Palo Alto's University Village neighborhood. The feasibility study was approved by the Menlo Park and East Palo Alto City Councils, however, no process or timeline to obtain the public trail rights from SFPUC along the preferred route was identified at that time.

In September 2012, the City of East Palo Alto approved the Ravenswood/4 Corners Transit-Oriented Development (TOD) Specific Plan and certified the accompanying EIR (East Palo Alto 2012). This Specific Plan includes phased implementation of a future two-lane road and pedestrian/bicycle trail from University Avenue to connect eastward to the Bay Trail. The first phase includes the trail only, and the second phase includes the trail and road. The EIR stated that project level environmental review of the loop road would be required during the design phases of the project. The proposed trail project evaluated in this Initial Study tiers off of the Specific Plan EIR. Mitigation measures from the Specific Plan EIR have been incorporated into this Initial Study, as applicable.

SFPUC recently completed the construction of the Hetch Hetchy Bay Pipeline Tunnel (SFPUC 2009) north of the Ravenswood/4 Corners TOD Specific Plan loop road. The pipeline alignment passes underneath Ravenswood Open Space Preserve, requiring an easement from MROSD, which was

granted on January 31, 2011. In exchange, MROSD obtained an open space easement on the SFPUC parcel, where the preferred route of the Bay Trail was identified in the 2005 Bay Trail Feasibility Study. This easement has served as a temporary placeholder for a future trail easement while MROSD and the SFPUC evaluated the feasibility of creating a trail easement over a portion of the open space easement for purposes of providing a public access trail.

An extensive planning effort in 2011 and 2012, which included the evaluation of current land use constraints, construction techniques, and regulatory requirements, resulted in a consensus between MROSD, the Cities of Menlo Park and East Palo Alto, SFPUC, and community stakeholders on a conceptual Bay Trail route. In April 2011, a biological field assessment was completed by Biotic Resources Group to identify the wetland boundaries and sensitive habitats within the project area so that the trail could be designed to avoid these areas to the greatest extent feasible. Based on the wetland locations identified, MROSD revised the proposed conceptual trail route/alignment and developed two options for the alignment (described in Section 3.2, *Project Description* below). Subsequent field assessments were conducted in December 2014 and November 2015 to re-evaluate the project area and review the revised trail alignments.

3.2 PROJECT DESCRIPTION

3.2.1 Overview

The project study area for the conceptual trail is located generally east of University Avenue, south of the San Mateo County Transit District's Dumbarton railroad line, north of the University Village residential neighborhood in the City of East Palo Alto, and west of the existing San Francisco Bay Trail in the Ravenswood Open Space Preserve in the City of Menlo Park.

The project study area includes a SFPUC service road, a coastal marsh/wetland area managed by Caltrans east of University Avenue, a smaller wetland in the central portion of the project area, an upper grassland area in the central portion of the project area, and a wetland area managed by SFPUC and MROSD on the eastern end of the project area. The service road provides access to SFPUC Ravenswood Valve Lot to the north. A Hetch Hetchy pipeline right-of-way (ROW) transects the project study area.

The proposed project includes several components:

1. Transfer of a public trail easement from the SFPUC property to MROSD.
2. MROSD's adoption of a Preliminary Use and Management Plan for the trail easement.
3. Potential future transfer of the public trail easement from MROSD to another public agency.
4. Design, permitting, and construction of the new Bay Trail segment.
5. Operation of the new Bay Trail segment with extended trail use hours for Bay Trail commuters (5:00 a.m. to 10 p.m.).
6. Maintenance of the new Bay Trail segment.
7. Resurfacing of the existing Bay Trail segment in Ravenswood Open Space Preserve.

3.2.2 Conceptual Trail Routes

Upon completion, the new segment of the Bay Trail route would be approximately 3,000 feet in length (refer to Figure 3.2-1). The trail itself would be eight to 14 feet wide (including shoulders) within a 20-foot wide trail easement corridor.

There are two options proposed for the trail alignment (refer to Figure 3.2-1).

Option Number One: The first option for the alignment, from west to east, would begin at the intersection of University Ave and the SFPUC Service road. The first segment of trail, which would be 10 feet wide on pavement with a 4-foot gravel edge along the north side of the trail, would be striped on the existing SFPUC service road for approximately 1,400 feet. Where the SFPUC road turns and is no longer adjacent to the residential neighborhood, a new segment of paved trail, 10 feet wide with 2-foot gravel shoulders on both sides, would be constructed through upland grassland for approximately 525 feet. The trail would connect to an 80 to 120-foot long single-span bridge that would cross over an existing seasonal pond and wetland area (central project area). After the bridge, the trail would either take one of two forms. First, it might become a raised boardwalk until it connects to the existing unpaved multi-use San Francisco Bay Trail within the Ravenswood Open Space Preserve. Alternatively, the trail might be a new paved trail segment, 10 feet wide with 2-footgravel shoulders, extending approximately 400 feet to an approximately 520-foot long raised boardwalk that would cross the coastal salt marsh area on the eastern end of the project site. This raised boardwalk section would then connect to the existing unpaved multi-use San Francisco Bay Trail within Ravenswood Open Space Preserve.

Option Number Two: The second option for the trail alignment is similar to the first option except at the west end. Whereas the first option would route the trail adjacent to the Caltrans wetland on the existing SFPUC service road, the second option proposes an approximately 230-foot long bridge to transect the Caltrans wetland property from University Avenue to the proposed striped trail on the SFPUC service road. The bridge over the wetland would be either a single-span or multiple span structure. The striped trail on the service road would extend approximately 1,040 feet and would connect to the proposed paved trail over the upland grassland area. The remaining portion of the alignment would be consistent with the alignment proposed under the first option.

Under both options, the proposed bridge(s) would be approximately 10 to 14 feet wide with guard rails extending a minimum of 3.5 feet above the walking surface. The bridges' walking surface are expected to be no more than 10 feet above ground level. The bridge structures would be comprised of a wood deck on a prefabricated steel or aluminum truss superstructure supported by small concrete abutments at each end which are in turn, supported by pile or helical anchor foundations. Bridge segments would be delivered to the construction site using large trucks. Cranes would then be used to place the bridge segments on the support abutments.

The boardwalk walking surface would be between three and eight feet above the ground and is expected to have an eight to 10-foot wide walking path with an overall width of 10 to 14 feet including the railings and support structure. The guard railings would be a minimum of 3.5 feet in height. The boardwalk would be comprised of wood decking and wood railings and would be supported by wood piles or helical anchor supports. The bridge and boardwalk features of the project

would be similar in size and composition to other trail segments in the area and along the shoreline of San Francisco Bay. The project materials would complement the existing vegetation and features of the project area. Pile driving would not be required.

The portion of the trail that would be striped on the SFPUC service road provides access to the SFPUC Ravenswood Valve Lot, north of the project site. The proposed trail project would not affect the operation or accessibility of the adjacent SFPUC Ravenswood Valve Lot. The proposed trail would include signage informing users that the SFPUC Ravenswood Valve Lot is not open to the public and fencing or other physical barrier to prevent trail users from accessing SFPUC facilities. The SFPUC service road would continue to accommodate a low volume of SFPUC service vehicles after the completion of the trail. The only vegetation plantings that would occur within SFPUC ROW would be the seeding of disturbed upland areas with native grass seed or any revegetation required by regulatory permit requirements or mitigation.

Most of the proposed trail route is located within the City of East Palo Alto and is owned by the SFPUC. A 100-foot segment of the alignment just east of University Avenue is within City of East Palo Alto right-of-way. The wetland area immediately east of University Avenue and west of the SFPUC parcel is owned by Caltrans and is located in the City of Menlo Park. Approximately 210 feet of the easternmost portion of the proposed trail alignment is within the City of Menlo Park and is owned by the MROSD.

The proposed project also includes the repaving of approximately 3,600 linear feet (0.7 miles) of the existing Bay Trail within the Ravenswood Open Space Preserve (refer to Figure 3.2-2). The repaving would extend south from the new trail alignment's terminus to the southern terminus of the Bay Trail located on the western perimeter of the Ravenswood Open Space Preserve marsh.

Signage would be placed at the trailhead on University Avenue to notify the public of the hours of operation and trail regulations, including the prohibition of dogs on the trail and extended trail use hours for Bay Trail commuters. Signage would also be posted on a newly installed fence separating the public trail and SFPUC Ravenswood Valve Lot to notify the public that trespassing onto the adjacent private property is prohibited. The trail would not be lighted.

3.2.2.1 *Site Drainage*

The drainage of the project site would change minimally from current conditions because most of the new trail alignment will be located on existing paved roads or raised structures above the wetland areas. Because the project will add only small sections of impervious paved surfaces, stormwater will still easily percolate into the ground to allow for natural filtration. Additional storm drainage facilities would be unnecessary since most of the project site is designed to remain permeable and would be able to treat stormwater entering the San Francisco Bay.

3.2.2.2 *Construction Schedule and Phasing*

Based on current plans, MROSD anticipates that construction would not commence until 2018 at the earliest and the duration of construction is estimated to be approximately 22 weeks. It is anticipated that the construction sequence would be as follows: The first four weeks would consist of

mobilization and site preparation. The next 17 weeks would consist of trail striping on the service road, construction of paved trail segments, boardwalk and bridge construction, resurfacing of the existing trail segment and plantings. The last week would include site cleanup and demobilization. This sequence is subject to change.

The construction of the paved trail through the central grassy area may require temporary construction access across a small wetland area. To minimize trampling of vegetation, construction matting is proposed to cover the wetland areas needed for temporary access. Based on the construction schedule, the matting would be in place for no more than two days.

Trail construction equipment would include a striping machine, road grader, small excavator, skip loader, power auger, weed mower and various hand tools (e.g. power drills, skill saws, and hammer). Bridge segments would be delivered to the construction site using large trucks. Cranes would then be required to place the bridge segment on the support abutments. The boardwalk would be constructed using hand tools and light weight construction equipment.

LEGEND

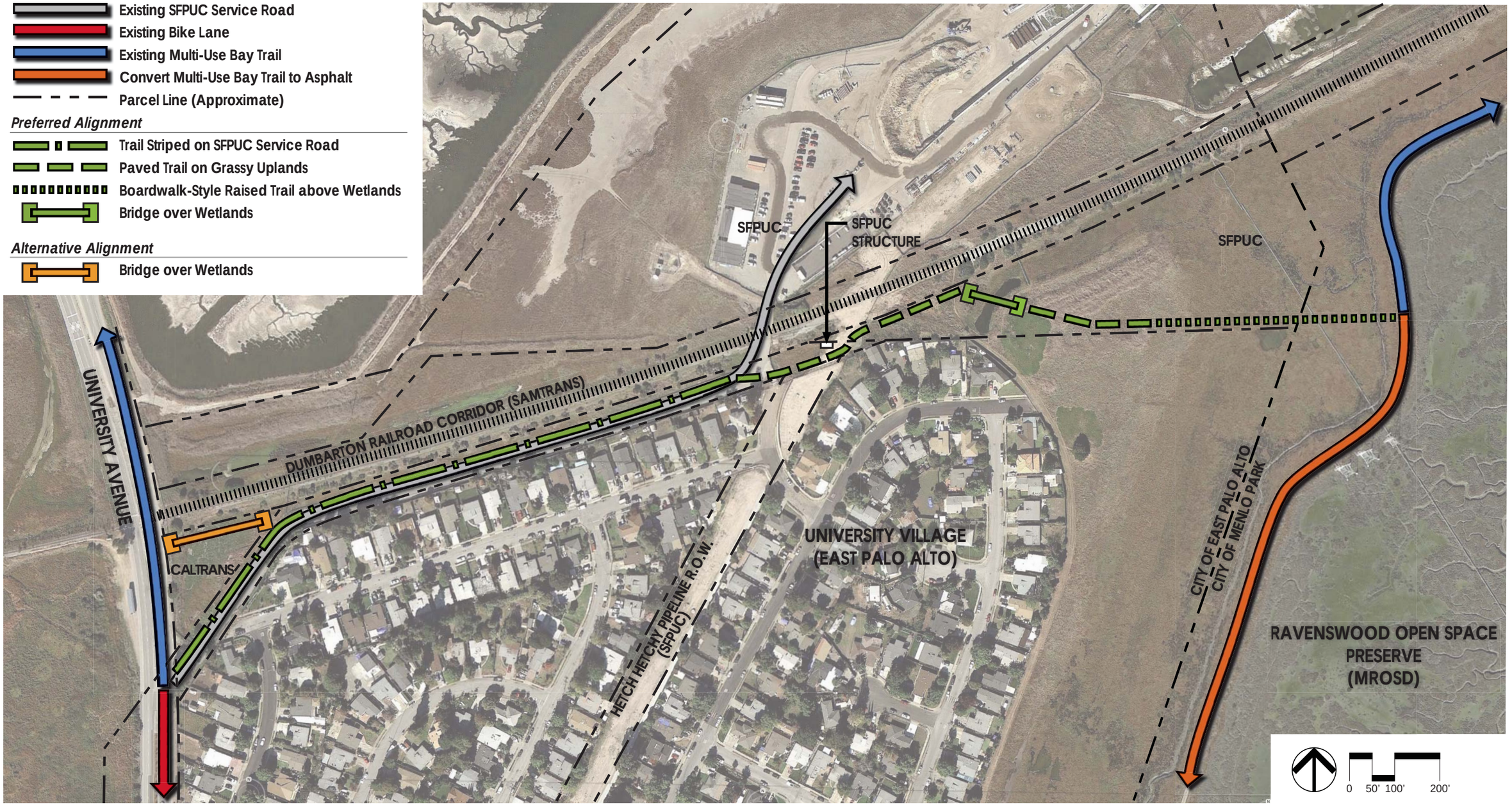
- Existing SFPUC Service Road
- Existing Bike Lane
- Existing Multi-Use Bay Trail
- Convert Multi-Use Bay Trail to Asphalt
- Parcel Line (Approximate)

Preferred Alignment

- Trail Striped on SFPUC Service Road
- Paved Trail on Grassy Uplands
- Boardwalk-Style Raised Trail above Wetlands
- Bridge over Wetlands

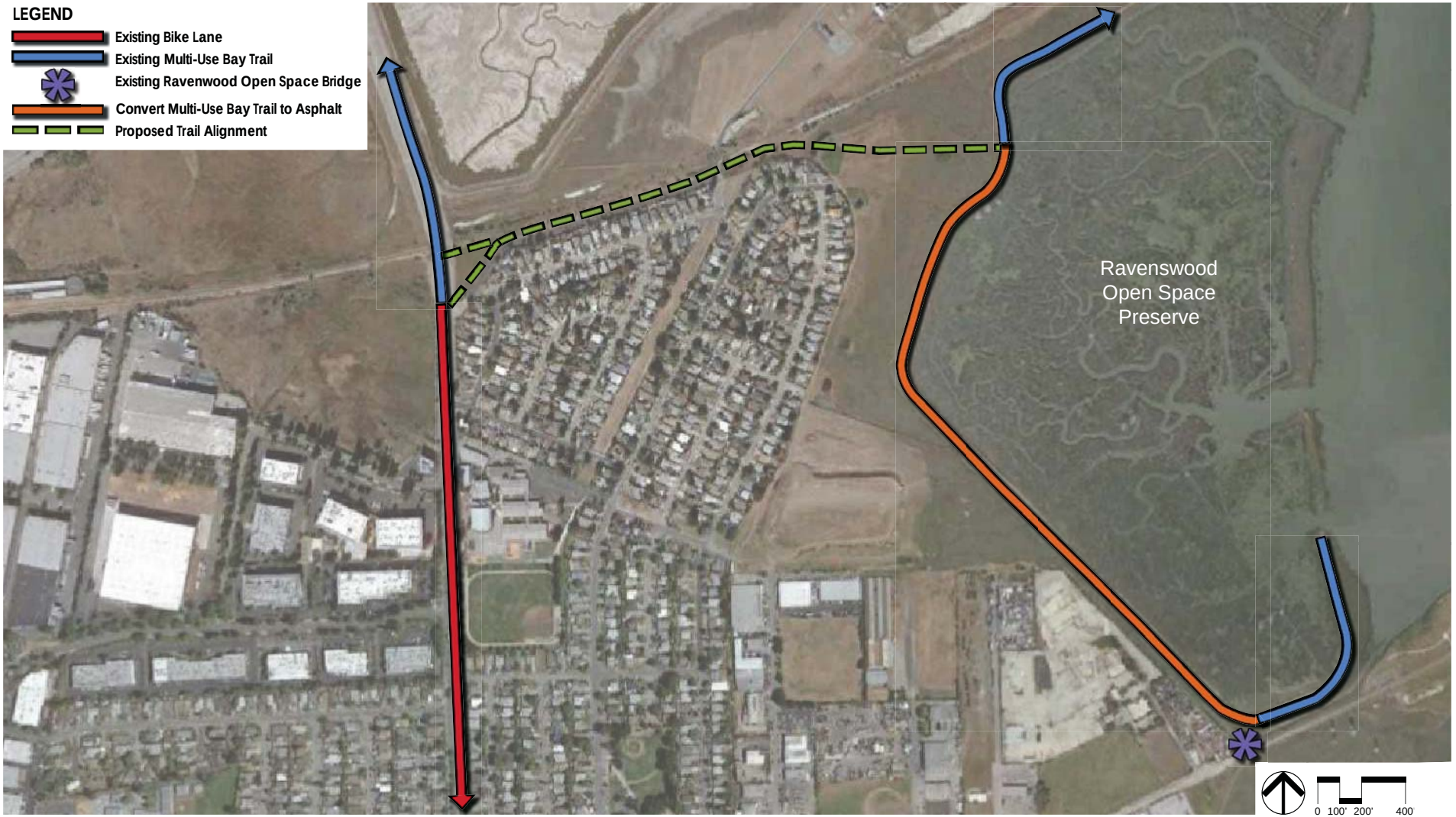
Alternative Alignment

- Bridge over Wetlands



PROPOSED TRAIL ALIGNMENTS

FIGURE 3.2-1



IMPROVEMENTS TO EXISTING BAY TRAIL SEGMENTS

FIGURE 3.2-2

SECTION 4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION OF IMPACTS

This section describes the existing environmental conditions on and near the project site, as well as environmental impacts associated with the proposed project. The environmental checklist, as recommended in the CEQA Guidelines, identifies environmental impacts that could occur if the proposed project is implemented.

The right-hand column in the checklist lists the source(s) for the answer to each question. The sources cited are identified at the end of this section. Mitigation measures are identified for all significant project impacts. "Mitigation Measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guideline 15370).

In December 2015, the California Supreme Court published an opinion [*California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369 (No. S 213478)*] which confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects of the existing environment on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project <u>on</u> the environment, including whether a project may exacerbate existing environmental hazards.

Where applicable, this chapter also identifies standard engineering practices and appropriate MROSD Resource Management Policies that serve to address the potential for impacts to occur to a project given existing conditions. Examples of this include, but are not limited to, projects located in geologic hazard zones, floodplains, or areas with high noise levels. Providing this information is consistent with one of the primary objectives of CEQA and this document, which is to provide objective information to decision-makers and the public regarding a project as a whole. The CEQA Guidelines and the courts are clear that a CEQA document (e.g., EIR or Initial Study) can include information of interest even if such information is not an "environmental impact" as defined by CEQA.

4.1 AESTHETICS

4.1.1 <u>Setting</u>

4.1.1.1 *Applicable Plans, Policies and Regulations*

State Scenic Highways Program

The State Scenic Highways Program was created by the California State Legislature in 1963 and is under the jurisdiction of the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highway Code, Sections 260 through 263. A highway may be designated as a scenic highway by Caltrans depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which

development intrudes upon the traveler's enjoyment of the view. There are no designated scenic highways visible from the project site.

SFPUC Interim Water Pipeline Right of Way Use Policy for San Mateo, Santa Clara, and Alameda Counties

As part of its utility system, the SFPUC operates and maintains hundreds of miles of water pipelines and provides public use on their water pipeline property or right-of-way (ROW), consistent with their existing plans and policies. The Interim Water Pipeline Right of Way Policies help inform how and in which instances the ROW can serve the needs of third parties – including public agencies, private parties, nonprofit organizations, and developers seeding to provide recreational and other use opportunities to local communities.

In terms of aesthetics, structures on SFPUC ROW are generally prohibited. SFPUC does not allow any light fixtures on the ROW that require electrical conduits running parallel to the pipelines. In addition, all lighting is required have shielding to prevent spill over onto adjacent properties. The proposed project does not including lighting or any structures and is therefore, consistent with SFPUC policies related to lighting and overall aesthetics.

East Palo Alto General Plan

The East Palo Alto General Plan includes land use goals and policies to maintain and enhance the visual character and quality of East Palo Alto communities by avoiding or abating the intrusion of disruptive, non-conforming buildings or uses. The East Palo Alto General Plan designates University Avenue as an important gateway to the city. The project complies with General Plan Conservation/Open Space Policy 2.4, which requires new development to maximize the enjoyment and promotion of natural resource areas (such as the proposed Bay Trail), including the baylands, Cooley Landing, San Francisquito Creek, and the shoreline of San Francisco Bay.

City of Menlo Park

The City of Menlo Park's General Plan land use goals and policies seek to maintain and enhance the aesthetic character and quality of the City of Menlo Park's communities. The General Plan Land Use Policy I-G-7 requires public access to the Bay for the scenic enjoyment of the open water, sloughs, and marshes to be protected. The City of Menlo Park has also established a goal (Goal OSC1 in the General Plan) to protect, conserve and enhance valuable natural resources, open areas and designated open space lands rich in scenic value, wildlife or of a fragile ecological nature through conservation and restoration efforts. The project is consistent with these goals and policies.

Ravenswood/4 Corners TOD Specific Plan

The Ravenswood/4 Corners TOD Specific Plan includes policies to maintain the area's visual and aesthetic resources. The following policies apply to the project site.

- **Policy LU-1.6:** Require project proponents to design all new development so that it responds to the scale, grain, and character of existing nearby development.

- **Policy LU-2.3:** Ensure that all development in the Plan Area along University Avenue and Bay Road adheres to the Specific Plan's design standards and guidelines.

- **Policy LU-3.2:** Ensure that new development throughout the Plan Area maintains or improves the character of any adjacent residential neighborhoods.

The proposed trail is consistent with these policies.

4.1.1.2 *Existing Conditions*

The project area is approximately 3,000 feet in length and extends from University Avenue in the City of East Palo Alto to the existing San Francisco Bay Trail in Ravenswood Open Space Preserve in the City of Menlo Park. The project area is located east of University Avenue, south of the San Mateo County Transit District's Dumbarton railroad line (currently inactive but planned for future use) and the SFPUC Ravenswood Valve Lot, north of the University Village residential neighborhood, and west of the existing San Francisco Bay Trail in the Ravenswood Open Space Preserve. The project area is not located within a scenic viewshed or along a designated scenic highway.

The project area consists of a flat paved SFPUC service road, which extends 1,400 feet east of University Avenue, as shown in Photo 1. Ruderal scrub (weedy shrubs and herbaceous plants) occurs immediately to the north and south of this road and along the edge of the railroad, as shown in Photo 2. Ruderal grassland area (which supports upland, weedy vegetation) occurs in higher elevation areas to the east of the road, adjacent to the salt marsh, and along the edge of the railroad. There are trees located adjacent to the service road and railroad (refer to Photos 1 and 2).

The eastern portion of project area is undeveloped and primarily consists of upland grassland and coastal salt marsh habitat (including vegetation such as pickleweed and salt grass, wetlands and an open pond). Views of the coastal marsh/wetland areas on the SFPUC property (to the north and east of the SFPUC service road) are shown in Photos 3 and 4. A wetland area, owned by Caltrans, is immediately to the east of University Avenue and to the west of the SFPUC service road.

Views of University Avenue and the SFPUC Ravenswood Valve Lot are shown in Photos 5 and 6, respectively. Views of the project area are generally limited to the Ravenswood Open Space Preserve, the University Village residential development, University Avenue, and the SFPUC Ravenswood Valve Lot area.

4.1.2 Environmental Checklist and Discussion of Impacts

AESTHETICS					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒	1-5
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐	1,2,7
3) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	1
4) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒	1,2

4.1.2.1 *Impacts to a Scenic Vista*

The project site is not located within a scenic view corridor or scenic vista and, therefore, would not result in a significant aesthetic impact to scenic views.

4.1.2.2 *Impacts Scenic Resources and Changes to Visual Character*

The project area is not located in the vicinity of a state scenic highway and there are no historic buildings or structures on the project site (refer to Section *4.5 Cultural Resources*); therefore, no impacts to historic structures within a state scenic highway would occur.[1]

The Ravenswood Open Space Preserve is considered a bayfront scenic resource. Construction of the trail within the preserve would be consistent with the public access policies of MROSD, the Bay Trail Plan, and the policies of East Palo Alto and Menlo Park. By its nature, the trail would not involve large buildings, structures, or lighting that might be incompatible with the open space character of the Preserve. It is also important to note that the project itself will provide the public with access to the scenic resources that are present within the Preserve.

[1] Caltrans. *California Scenic Highway Mapping System. San Mateo County*. Available at: <http://www.dot.ca.gov/hq/LandArch/scenic_highways/>. Accessed July 8, 2015.

Photo 1: View of SFPUC Service Road, looking west toward University Avenue

Photo 2: View of upland grasslands and adjacent railroad tracks

Photo 3: View of coastal marsh/wetland area on the SFPUC property, located in the eastern section of the project area

Photo 4: View of coastal marsh/wetland area on the SFPUC property, located in the central section of the project area

Photo 5: View of University Avenue immediately to the west of the project area, looking north.

Photo 6: View of the adjacent Ravenswood Valve Lot, looking north.

As described in the following paragraph, certain components of the trail would be visible from adjacent areas but would not constitute a significant adverse visual effect and/or significant change in the area's visual character.

The completed boardwalk and bridge(s) would be visible from the adjacent surroundings including to recreational visitors on other nearby trails. The walking surface of the boardwalk portion of the trail would be no more than eight feet above ground level with guard rails extending a minimum of 3.5 feet in height. The boardwalk would have an overall width of 10- to 14-feet, which would include the railings and support structure. The boardwalk would be comprised of wood decking and wood railings and would be supported by wood piles or helical anchor supports. The bridge structures would be comprised of a wood deck on a prefabricated steel or aluminum truss superstructure supported by small concrete abutments at each end which are in turn supported by pile or helical anchor foundations. These features of the project would be similar in size and composition to other trail segments in the area and along the shoreline of San Francisco Bay, and the project materials would complement the existing vegetation and features of the project area. Pile driving would not be required.

The proposed alignment of the trail has been designed to avoid the removal of trees, the loss of which could otherwise be considered a potentially significant visual effect. Vegetation to be removed/disturbed for the trail would be limited to shrubs, grasses, and low-lying plants. The permanent footprint of the trail would not be a significant visual change, as viewed in the context of the preserve. Further, vegetation affected by temporary construction activities will recover naturally.

Thus, the proposed project would not substantially damage any scenic resources or substantially degrade the existing visual character or quality of the site or its surroundings.

4.1.2.3 *Light and Glare Impacts*

The proposed project would not create a new source of light or glare as the trail would not be lighted. Construction would be limited to daytime hours, in accordance with the City of East Palo Alto's and the City of Menlo Park's municipal codes. Therefore additional lighting would not be necessary or used during construction. Lighting generated by trail users (e.g., commuters using headlamps or bike lights) would be temporary, sporadic, and brief in nature and is not considered to be a new long-term light source within the project area. For these reasons, light or glare from the project would have no impact on day or night views in the area.

4.1.3 Conclusion

The proposed project would not result in any significant aesthetic or visual impacts.
(Less Than Significant Impact)

4.2 AGRICULTURAL AND FOREST RESOURCES

4.2.1 Setting

4.2.1.1 *Applicable Plans, Policies and Regulations*

California Department of Conservation

The California Department of Conservation (DOC), under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state's farmlands to and from agricultural uses. The map series identifies eight classifications and uses a minimum mapping unit size of 10 acres. The FMMP also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The FMMP sets standards and relies upon information from National Resource Conservation Service (NRCS) soil surveys, NRCS land inventory and monitoring criteria, and land use and water availability. While the FMMP provides an informational service, it does not constitute state regulation of local land use decisions.

California Land Conservation Act

The California Land Conservation Act, also known as the Williamson Act, was enacted in 1965 in order to preserve agricultural lands by discouraging premature and unnecessary conversion to urban uses. Counties and cities that choose to participate in the Williamson Act program implement the program through contracts with landowners that restrict use of the land in return for reduced property taxes, in accordance with local regulations and state law. Land under contract must be devoted to agricultural uses, open space and recreation uses as narrowly defined in the act, and incidental and compatible uses also defined in the Act and by local regulation. Williamson Act contracts have a minimum duration of ten years, and are automatically renewed unless the landowner or local government decides to "non-renew" a contract. Non-renewal of a contract involves a nine-year termination period, during which the provisions of the contract remain in place and property taxes return to the standard rate.

MROSD's Ravenswood Open Space Preserve (APN: 063-590-060) has a Williamson Act contract with the City of Menlo Park, dating from before the MROSD's purchase in the 1989, when the property was operated as a salt pond. As a government agency, MROSD is exempt from taxes; therefore, the tax benefit typical of Williamson Act contracts has never applied to MROSD.

Board of Forestry and Fire Protection

The Board of Forestry and Fire Protection is a government-appointed body within the Department of Forestry and Fire Protection (CAL FIRE). It is responsible for developing the general forest policy of the state, for determining the guidance policies of CAL FIRE, and for representing the state's interest in federal forestland in California. Together, the Board and CAL FIRE work to carry out the California Legislature's mandate to protect and enhance the state's unique forest and wildland resources.

The Board is charged with protecting the forest resources of all the wildland areas of California that are not under federal jurisdiction. These resources include major commercial and non-commercial stands of timber, areas reserved for parks and recreation, the woodland, brush-range watersheds, and all such lands in private and state ownership that contribute to California's forest resource wealth.

4.2.1.2 *Existing Agricultural and Forest Resources*

The *San Mateo County Important Farmland 2012* Map designates the project area to the south of the San Mateo County Transit District (SamTrans) Dumbarton Railroad Corridor and north of University Village as *Urban and Built-Up Land. Urban and Built-Up Land* is defined as land that is occupied by structures with a building density of at least one unit to one and one-half acres, or approximately six structures to a 10-acre parcel. The project area to the northeast and east of University Village (the SFPUC grassy upland area and Ravenswood Open Space Reserve area) is designated as *Other Land*, which is defined as land that is not included in any other mapping category. No lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are present.

The project area is not currently used for agricultural purposes. Existing uses in the project area include an SFPUC service road from University Avenue to the unpaved Hetch Hetchy Pipeline rights-of-way, vacant and grassy upland area, and Ravenswood Open Space Preserve area which consists of wetland and grassland areas, and an existing multi-use San Francisco Bay Trail.
The City of East Palo Alto's General Plan and Zoning District has designated the project area from northeast and east of University Village (vacant grassland and wetland area) to the City of East Palo Alto border as *Ravenswood Open Space (ROS)*, and the area to the north of University Village and south of the future SamTrans Dumbarton Rail Corridor is not zoned. The project area that is zoned *ROS* does not permit agricultural uses. The City of Menlo Park has designated the project area located within the Caltrans parcel, approximately 80 feet of the SFPUC service road, Ravenswood Open Space Preserve as a *Non-Urban* in the General Plan and the zoning district for this area is *Flood Plain (FP) District*.

As mentioned above, the portion of the project site within the Ravenswood Open Space Preserve has a Williamson Act contract with the City of Menlo Park, originating prior to MROSD's ownership when the property was operated as a salt pond. Salt production ceased after the MROSD purchase, and a low-intensity recreational trail system was opened using the salt pond levees. In 2000, the preserve levee was breached and tidal flow restored to simulate natural conditions, which has resulted in the creation of an extensive marshland habitat. The project site is upland of the former salt pond levee and appears never to have been a part of the salt pond system.

The project area is not considered forest land or timberland.[2] The project area is not a forest resource, nor are there forest resources in the surrounding areas.

[2] According to California Public Resources Code Section 12220(g), "Forest land" is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. According to California Public Resources Code Section 4526, "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees.

4.2.2 Environmental Checklist and Discussion of Impacts

AGRICULTURAL AND FOREST RESOURCES					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	1,10
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	1,2,6
3) 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))?	☐	☐	☐	☒	1,2
4) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	1,2,4,5
5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	1

4.2.2.1 *Agricultural and Forest Resources Impacts*

As described above, the local General Plans and Zoning Districts do not designate the project area for agricultural or salt pond purposes or forest land/timberland. The development of a trail in the project area would not, therefore, result in the loss of agricultural land or forest land/timberland. In addition, the project area is located in an urban area and there are no adjacent properties used for agricultural, salt production pond, or forest land/timberland purposes. The portion of the project within the Ravenswood Open Space Preserve has a Williamson Act contract dating from before the property

was an open space preserve. MROSD or the City of Menlo Park could initiate the nonrenewal process for the Williamson Act at their own discretion, but to date the process has not been initiated. Regardless, the Williamson Act does not have any land use implications on the trail project, because as mentioned above, no impacts to agricultural or forest land would occur as a result of the project and the Williamson Act contract does not prohibit open space trails or other elements of the project. For this reason, the proposed project would not result in conversion of off-site farmland or forest land/timberland to urban uses or conflict with any Williamson Act contracts.

4.2.3 Conclusion

The project would not result in any impacts to agricultural or forest resources.
(No Impact)

4.3 AIR QUALITY

4.3.1 Setting

4.3.1.1 *Applicable Plans, Policies and Regulations*

Federal, state, and regional agencies regulate air quality in the Bay Area Air Basin, within which the proposed project is located. At the federal level, the U.S. Environmental Protection Agency (EPA) is responsible for overseeing implementation of the Federal Clean Air Act (CAA). The California Air Resources Board (CARB) is the state agency that regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The primary agency that regulates air quality in the project area is the Bay Area Air Quality Management District (BAAQMD). BAAQMD has permit authority over stationary sources, acts as the primary reviewing agency for environmental documents, and develops regulations that must be consistent with or more stringent than, federal and state air quality laws and regulations.

BAAQMD prepared and adopted the Bay Area 2010 Clean Air Plan (CAP). This CAP updates the most recent ozone plan; the 2005 Ozone Strategy. Unlike previous Bay Area CAPs, the 2010 CAP is a multi-pollutant air quality plan addressing four categories of air pollutants:

- Ground-level ozone and the key ozone precursor pollutants (reactive organic gases and nitrogen oxide), as required by State law;
- Particulate matter, primarily $PM_{2.5}$, as well as the precursors to secondary $PM_{2.5}$;
- Toxic air contaminants (TAC); and
- Greenhouse gases.

While the CAP addresses state requirements, it also provides the basis for developing future control plans to meet federal requirements (NAAQS) for ozone and $PM_{2.5}$.

BAAQMD has also developed CEQA Air Quality Guidelines that provide guidance for evaluating air quality impacts of projects and plans. The CEQA Air Quality Guidelines provide procedures for evaluating potential operation- and construction-related impacts during the environmental review process, consistent with CEQA requirements.

Local jurisdictions, such as the City of Menlo Park and City of East Palo Alto, have the authority and responsibility to reduce air pollution through their decision-making authority. Both cities and other jurisdictions in the San Francisco Bay Area Air Basin have used the thresholds and methodology for assessing air emissions put forth by BAAQMD based upon the scientific and other factual data prepared by BAAQMD in developing those thresholds.

In accordance with CEQA requirements and the CEQA review process, the Cities of East Palo Alto and Menlo Park assess the air quality impacts of new development projects, require mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitor and enforce the implementation of such mitigation measures. The cities use the BAAQMD CEQA Guidelines as their guidance document for the environmental review of plans and development proposals within their jurisdiction.

City of East Palo Alto Climate Action Plan

The City of East Palo Alto Climate Action Plan provides guidance for community efforts to reduce greenhouse gas emissions. The Climate Action Plan also includes measures to lower emissions from criteria pollutants and TACs. The Climate Action Plan includes 23 actions to address climate change that mostly focus on emission reductions and energy and water conservation goals.

City of Menlo Park General Plan

The General Plan guides development and use of land within the City. General Plan Policy OSC5.1 (Air and Water Quality Standards) requires the City to apply standards and policies established by BAAQMD, San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), and City of Menlo Park Climate Action Plan through the CEQA process and other means as applicable.

4.3.1.2 *Existing Air Quality Conditions*

Air quality and the amount of a given pollutant in the atmosphere are determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

Northwest winds and northerly winds are most common in East Palo Alto, reflecting the orientation of the Bay and the San Francisco peninsula. Winds from these directions carry pollutants released by autos and factories from upwind areas of the peninsula towards East Palo Alto, particularly in the summer months. Winds are lightest on average in fall and winter. During the fall and winter, there are periods of several days when wind speeds are low and local pollutants build up.

Criteria Air Pollutants

The project site is within the western portions of the San Francisco Bay Area Air Basin. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$). High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x). These precursors react under certain meteorological conditions to form high ozone levels. Controlling these precursor pollutants is the focus of the Bay Area's attempt to reduce ozone levels. High ozone levels aggravate respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort.

PM is assessed and measured in terms of respirable particulate matter, or particles that have a diameter 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both regionwide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality, and result in reduced lung function growth in children.

As part of an effort to attain and maintain ambient air quality standards for ozone, PM_{10}, and $PM_{2.5}$ BAAQMD has established thresholds of significance for precursor air pollutants. These thresholds are described below.

Toxic Air Contaminants

In addition to the criteria/precursor pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different TACs. Health risks from TACs are a function of both concentration and duration of exposure. Exposure to TACs can result from emissions from normal operations (i.e., vehicle operations), as well as accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

BAAQMD's adopted thresholds of significance for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. These thresholds are described below.

BAAQMD's CEQA Air Quality Guidelines require that projects be evaluated for community risk when they are located within 1,000 feet of freeways, high traffic volume roadways (10,000 average annual daily trips or more), and/or stationary permitted sources of TACs.

BAAQMD developed the Stationary Source Screening Analysis Tool which maps the locations of stationary permitted sources of TACs in the Bay Area. The BAAQMD screening tool does not show any stationary permitted TAC sources within 1,000 feet of the project site. The project site is within 1,000 feet of University Avenue which is considered a state highway. According to the Ravenswood/4 Corners TOD Specific Plan Final EIR (September 2012), sensitive receptors (i.e., children under 14, senior citizens over 65, athletes, and people with cardiovascular and chronic respiratory diseases) located in land uses (e.g., residences, schools, workplaces, etc.) within 60 feet of University Avenue could be exposed to significant levels of TACs emitted from traffic.

4.3.1.3 *Existing Odors*

Common sources of odors include wastewater treatment plants, transfer stations, coffee roasters, painting/coating operations, etc. Table 3-3 in the BAAQMD CEQA Guidelines has a list of common odor sources with associated screening distances. Projects that would place a new sensitive receptor

farther than the applicable screening distance from an existing odor source would not likely result in a significant odor impact. There are no observed odor sources near the site.

4.3.1.4 *Existing Sensitive Receptors*

BAAQMD defines sensitive receptors as population groups that are particularly sensitive to the effects of air pollutants (i.e., children, the elderly, and people with illnesses). Places where sensitive receptors are likely to be located include schools, hospitals, and residential areas. Sensitive receptors in the project area include the adjacent University Village residences, which are approximately 25 feet or more from the project area. Trail users are not sensitive receptors because they are on the trail for relatively short, temporary, and inconsistent periods of time. Users of the proposed trail would not experience any conditions that are not present on other trails in the Bay area.

4.3.1.5 *CEQA Significance Thresholds*

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. In June 2010, the Air District's Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Guidelines. The updated CEQA Guidelines, which were updated in May 2011, review and describe assessment methodologies, and mitigation strategies for criteria pollutants, toxic air contaminants, odors, and greenhouse gas emissions.

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the Lead Agency and must be based to the extent possible on scientific and factual data. Lead Agencies in the San Francisco Bay Area Air Basin often utilize the thresholds and methodology for assessing air emissions and/or health effects adopted by BAAQMD based upon the scientific and other factual data prepared by BAAQMD in developing those thresholds.

The analysis in this Initial Study is based upon the general methodologies in the most recent BAAQMD CEQA Air Quality Guidelines (updated May 2011) and numeric thresholds for the San Francisco Bay Basin, including the thresholds listed in Tables 4.3-1 and 4.3-2.

Table 4.3-1: Thresholds of Significance Used in Air Quality Analyses

Pollutant	Construction	Operation-Related	
	Average Daily Emissions (pounds/day)	**Average Daily Emissions (pounds/day)**	**Maximum Annual Emissions (tons/year)**
ROG, NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust (PM_{10}/$PM_{2.5}$)	Best Management Practices	None	None
Local Carbon Monoxide (CO)	None	9.0 parts per million [ppm] (8-hour average); 20.0 ppm (1-hour average)	
Risk and Hazards for New Sources and Receptors (Project)	Same as Operational Threshold	• Increased cancer risk of >10.0 in one (1) million • Increased non-cancer risk of > 1.0 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase: > 0.3 μ/m^3 [Zone of influence: 1,000-foot radius from property line of source or receptor]	
Risk and Hazards for New Sources and Receptors (Cumulative)	Same as Operational Threshold	• Increased cancer risk of >100 in one (1) million • Increased non-cancer risk of > 10.0 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase: > 0.8 μ/m^3 [Zone of influence: 1,000-foot radius from property line of source or receptor]	
Odors		Five (5) confirmed complaints per year averaged over three (3) years	

Sources: *BAAQMD Thresholds Options and Justification Report (2009)* and *BAAQMD CEQA Air Quality Guidelines* (dated May 2011).

4.3.2 Environmental Checklist and Discussion of Impacts

AIR QUALITY						
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Beneficial Impact	Information Source(s)
Will the project:						
1) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☐	☒	1,2,12, 13,14
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐	☐	1,2,13
3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☐	☒	☐	☐	1,2,13
4) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐	☐	1,2
5) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒	☐	1,2,13

4.3.2.1 *Air Quality Impacts*

Consistency with Applicable Clean Air Plan

As noted previously, the adopted Bay Area Clean Air Plan (CAP) contains policies and strategies that have the goal of reducing the emissions of air pollutants and bringing the region into compliance with the Clean Air Act. Such policies and strategies include the construction of facilities that promote bicycle and pedestrian usage, thereby reducing trips made by motor vehicles. The proposed trail project is consistent with the CAP's transportation control measures (TCMs) because it will close an existing gap in the Bay Trail, which in turn will facilitate pedestrian and bicycle travel.

The City of East Palo Alto's Climate Action Plan also includes similar measures consistent with the CAP.

Since the project would further the goals and objectives of the adopted CAP, this impact is considered beneficial.

Long-Term Emissions of Criteria Pollutants & TACs

The proposed project is a pedestrian and bicycle trail project that completes a critical gap in a regional trail system. Once completed, the trail would serve to accommodate and facilitate non-motorized transportation and would not generate vehicle trips that would emit criteria pollutants or TACs. As an alternate mode of transportation that results in fewer motorized vehicles on the roadway, the trail would not generate new air pollutant emissions and no long-term air quality impact would result. [Note: Emissions from vehicles patrolling and maintaining the trail would be negligible and would be well below BAAQMD's thresholds for analysis.]

At the westerly terminus of the project, users of the trail would be in proximity to University Avenue, a highway with a relatively high volume of traffic and accompanying emissions of TACs. However, any exposure of trail users to elevated levels of TACs from traffic would, by definition, be brief since users would not be stationary. Therefore, the risk from any transitory exposure of trail users to TACs from traffic on University Avenue would not be significant.

Short-Term Emissions of Criteria Pollutants & TACs

Construction activities would temporarily affect local air quality. Construction activities such as earthmoving, construction vehicle traffic, and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that affect local and regional air quality. Construction activities are also a source of organic gas emissions. Asphalt used in paving is also a source of organic gases for a short time after its application.

The BAAQMD *CEQA Air Quality Guidelines* (2011) contain a screening threshold of 67 acres of parkland for construction-related impacts for criteria pollutants and their precursors (e.g., NO_x, ROG, particulate matter). The screening criteria provides lead agencies with a conservative indication of whether a project could result in significant air quality impacts by exceeding the emissions thresholds for criteria pollutants and their precursors shown in Table 4.3-1 (54 lbs. per day for ROG, NO_x, or $PM_{2.5}$ and 82 lbs. per day of PM_{10}).

The project size (approximately two acres for construction of the new trail alignment and 16 acres for pavement of the existing trail) is substantially below BAAQMD's screening threshold of 67 acres for construction period criteria air pollutant emissions and, therefore, does not require modeling of project construction emissions. The proposed project would, therefore, have less than significant construction criteria air pollutant emissions impacts.

The primary concern for nearby residents in University Village would be exposure to diesel emissions from diesel-powered construction equipment and diesel trucks associated with construction activities. Diesel particulate matter (DPM) is designated as a TAC by CARB for the cancer risk associated with long-term (i.e., 70 years) exposure to DPM. However, given that construction would occur for a relatively short period of time and progress linearly along the trail alignment in short stages, exposure to DPM would be minimal and temporary. Further, work along the trail segment adjacent to University Village would primarily consist of the striping of the existing service road, so use of diesel-emitting equipment near these residences would be limited and temporary.

Construction Dust Emissions

Construction dust could affect local air quality at various times during construction of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere. Construction activities would increase dustfall and locally elevated levels of PM_{10} downwind. Nearby land uses, particularly sensitive receptors (specifically located at University Village) to the south and west of the site, could be affected by dust generated during construction activities.

The proposed project would involve an approximately 22-week construction period (four weeks of site mobilization and preparation and approximately 17 weeks of construction, and one week of site cleanup and demobilization) that would result in temporary increases in air pollutant emissions, primarily particulates in the form of dust. These emissions would be generated primarily from construction equipment, earth disturbance, and construction worker and other construction-related vehicle trips to and from the site. While the construction period will be of short duration and there will be limited exhaust generating equipment necessary to complete the project, air quality impacts related to dust emissions to adjacent residences could be potentially significant.

Impact AIR-1: The construction of the proposed trail would temporarily affect local air quality and increase exposure of sensitive receptors to levels of dust above BAAQMD significance thresholds.

Implementation of the following Best Management Practices (BMPs) and measures for dust control would ensure compliance with the BAAQMD and reduce impacts to nearby sensitive receptors during construction to a less than significant level.

MM AIR-1: The proposed project shall include the following BAAQMD best management practices during construction:

- All exposed unvegetated surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered with potable water two times per day as required by weather conditions or covered using weed-free straw mulch or erosion control matting/blanket.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- Stabilized construction entrances and/or on-site truck tire washing stations shall be utilized at the construction site to reduce visible mud or dirt track-out onto adjacent public roads, to the maximum extent feasible. The use of power sweeping equipment is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Odors

The trail project would not introduce new permanent sources of odor. Construction of the project will result in some odors associated with exhaust from the construction equipment. Odors would be temporary and isolated to the local area and not likely noticeable for extended periods of time beyond the project site. For these reasons, the project would not create objectionable odors that would affect a substantial number of people, and the project's odor impacts would be less than significant.

4.3.3 Conclusion

The long-term air quality impacts of the project would be beneficial because there would be a reduction in motor vehicle trips. Air quality impacts related to construction would occur; however, all impacts can be reduced to a less than significant level through implementation of the mitigation measures described in this section. These measures are consistent with the BAAQMD recommended measures for dust control and Best Management Practices. With implementation of these measures, the proposed project would not result in significant impacts to air quality and would not conflict with any air quality plans. **(Less Than Significant Impact with Mitigation)**

4.4 BIOLOGICAL RESOURCES

The following discussion is based on the *Biological Report* completed by Biotic Resources Group in September 2016. This report is attached to this Initial Study as Appendix A.

4.4.1 Setting

4.4.1.1 *Applicable Plans, Policies, and Regulations*

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects listed wildlife species from harm or "take," which is broadly defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA only if they occur on federal lands or if the project requires a federal action, such as a Clean Water Act Section 404 fill permit from the U.S. Army Corps of Engineers (USACE). The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally listed threatened and endangered wildlife species under FESA, while the National Marine Fisheries Service (NMFS) has jurisdiction over federally listed, threatened and endangered, marine, and anadromous fish.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the USFWS. Migratory birds protected under this law include all native birds and certain game birds. This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not. An active nest under the MBTA, is defined as one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction.

Federal Clean Water Act and Rivers and Harbors Act

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

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit

would be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act (see "Porter-Cologne Water Quality Control Act and Section 401 Water Quality Certification" section below for a further description). The northern coastal salt marsh present within the project area is jurisdictional under current USACE regulation.

Magnuson-Stevens Fishery Conservation and Management Act

The National Marine Fisheries Service (NMFS), a division of the National Oceanic and Atmospheric Administration (NOAA), regulates Essential Fish Habitat (EFH). Protection of EFH is mandated through changes implemented in 1996 to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to protect the loss of habitat necessary to maintain sustainable fisheries in the United States. The Magnuson-Stevens Act defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S.C. 1802(10)). NMFS further defines essential fish habitat as areas that "contain habitat essential to the long-term survival and health of our nation's fisheries." EFH can include the water column, certain bottom types such as sandy or rocky bottoms, vegetation such as eelgrass or kelp, or structurally complex coral or oyster reefs. Under regulatory guidelines issued by NMFS, any federal agency that authorizes, funds, or undertakes action that may affect EFH is required to consult with NMFS (50 CFR 600.920). The project site is not considered an EFH.

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, the California Department of Fish and Wildlife (CDFW) has jurisdiction over state-listed species. The CDFW regulates activities that may result in "take" (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of individuals listed under CESA. Habitat degradation or modification is not expressly included in the definition of "take" under the CDFW Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

The National Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations. Please see Fish and Game Code section 1900 et seq. for more information.

During CEQA review, public agencies must evaluate and disclose impacts to the 220 plant species protected under CESA and the NPPA, and in most cases must mitigate all significant impacts to these species to a level of less than significance. In addition, during the CEQA process, public agencies must also address plant species that may not be listed under CESA or the NPPA, but that may nevertheless meet the definition of rare or endangered provided in CEQA. CDFW works in collaboration with the California Native Plant Society and with botanical experts throughout the state to maintain an inventory of rare and endangered plants, and the similar special vascular plants, bryophytes, and lichens list.

Species on these lists may meet the CEQA definition of rare or endangered. As the trustee agency for the wildlife of California, which includes plants, ecological communities and the habitat upon which they depend, CDFW advises public agencies during the CEQA process to help ensure that the actions they approve do not significantly impact such resources. CDFW often advises that plant species with an appropriate California rare plant ranking in the inventory be properly analyzed by the lead agency during project review to ensure compliance with CEQA. MROSD also has policies related to the protection of special status plant species, as described below.

CDFW Code

The CDFW Code includes regulations governing the use of, or impacts on, many of the state's fish, wildlife, and sensitive habitats. The Code exerts jurisdiction over the bed and banks of rivers, lakes, and streams according to provisions of Sections 1601-1603 of the CDFW Code. The CDFW Code requires a Streambed Alteration Agreement for the fill or removal of material within the bed and banks of a watercourse or waterbody and for the removal of riparian vegetation. The marsh, pond, and drainages within the northern coastal salt marsh areas of the project site are within the regulatory jurisdiction of CDFW.

Certain sections of the CDFW Code describe regulations pertaining to certain wildlife species. For example, CDFW Code Sections 3503, 2513, and 3800 protect most native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. In addition, CDFW Code Sections 3511, 4700, 5050, and 5515 designate fully protected birds, mammals, reptiles, amphibians, and fish. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and relocation of fully protected bird species for the protection of livestock. The definition of "take" is the same under the Fish and Game Code and the CESA. Incidental takes of fully protected species are not authorized by law, except when fully protected species are included as "covered species" as part of a Natural Community Conservation Plan (NCCP).

Porter-Cologne Water Quality Control Act and Section 401 Water Quality Certification

The State Water Resources Control Board (SWRCB) is responsible for protecting surface, ground, and coastal waters within the state. The SWRCB, together with the nine Regional Water Quality Control Boards (RWQCBs), is the state agency charged with implementing water quality certification in California. The SWRCB requires that a project apply for and obtain a Clean Water Act Section 401 Water Quality Certification for any project that requires a Clean Water Act Section 404 permit from the USACE.

The San Francisco Bay RWQCB is responsible for protecting surface, ground, and coastal waters within its boundaries, pursuant to the Porter-Cologne Water Quality Control Act of the California Water Code. As previously noted, the RWQCB has jurisdiction under Section 401 of the Clean Water Act for activities that could result in a discharge of dredged or fill material to a water body. Many wetlands fall into RWQCB jurisdiction, including some wetlands and waters that are not subject to USACE jurisdiction. RWQCB jurisdiction of other waters, such as streams and lakes, extends to all areas below the ordinary high water mark. The marsh, ponds and drainages within the

northern coastal salt marsh areas of the project site are located within the jurisdictional area of the RWQCB.

Under the Porter-Cologne Water Quality Control Act, the SWRCB and the nine regional boards also have the responsibility of granting Clean Water Act National Pollutant Discharge Elimination System (NPDES) permits and waste discharge requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

SFPUC Right of Way Integrated Vegetation Management Policy

SFPUC has established policies to manage vegetation on the transmission, distribution, and collection systems within SFPUC ROW so that it does not pose a threat or hazard to the system's integrity and infrastructure or impede utility maintenance and operations. The Integrated Vegetation Management Policy includes measures to manage woody vegetation, annual grasses, and weeds, reduce fire risk, and reduce the use of herbicides within the ROW.

The SFPUC's Interim Water Pipeline Right of Way Use Policy also requires the submittal of a planting plan for projects within their ROW to include a layout of vegetation placement and sources of irrigation. In addition, SFPUC's Water Enterprise Environmental Stewardship Policy (June 27, 2006) states that ROW and properties in urban surroundings under their management will be managed in a manner that protects and restores habitat value where available, and community participation in decisions that significant interrupt or alter current land use on these parcels.

The only plantings that would occur within SFPUC ROW would be the seeding of disturbed upland areas with native grass seed or any revegetation required by permit requirements or mitigation. The community will have input into the project during public hearings during which, the approval of the Initial Study/MND and project will be considered.

San Francisco Bay Conservation and Development Commission

State legislation, the McAteer-Petris Act, was passed in 1965 to establish and govern the San Francisco Bay Conservation and Development Commission (BCDC). The BCDC is dedicated to the protection and enhancement of San Francisco Bay. The *San Francisco Bay Plan (Bay Plan)*, completed by the BCDC in 1969, regulates development in and around the Bay, and includes a range of policies on public access, water quality, fill, and project design. The *Bay Plan* also designates shoreline areas that should be reserved for water-related purposes like ports, industry, public recreation, airports, and wildlife refuges.

BCDC regulatory jurisdiction consists of 1) San Francisco Bay and 2) a 100-foot wide band adjacent to the shoreline of San Francisco Bay. These areas are defined in the McAteer-Petris Act (PRC Section 66610), as follows:

> San Francisco Bay, being all areas that are subject to tidal action from the south end of the Bay to the Golden Gate (Point Bonita-Point Lobos) and to the Sacramento River line (a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut), including

> all sloughs, and specifically, the marshlands lying between mean high tide and five feet above mean sea level; tidelands (land lying between mean high tide and mean low tide); and submerged lands (land lying below mean low tide).
>
> A shoreline band consisting of all territory located between the shoreline of San Francisco Bay as defined above and a line 100 feet landward of and parallel with that line, but excluding any portions of such territory which are included in other areas of BCDC jurisdiction; provided that the Commission may, by resolution, exclude from its area of jurisdiction any area within the shoreline band that it finds and declares is of no regional importance to the Bay.

Applying the above definitions to the area of the proposed trail alignment, the Ravenswood Open Space Preserve marsh at the easterly end of the alignment is part of San Francisco Bay as it is subject to tidal action from the Bay. The 100-foot shoreline band would extend landward around the Ravenswood marsh and therefore a small segment (approximately 80 linear feet) of the proposed boardwalk would be constructed within the shoreline band of BCDC's jurisdiction. The remainder of the proposed trail alignment is outside of BCDC jurisdiction.[3]

City of East Palo Alto General Plan

Policies in the City of East Palo Alto's General Plan have been adopted for the purpose of avoiding or mitigating biological resource impacts resulting from planned development within the City. These policies include protection of important natural plant and animal communities and watershed areas.

City of Menlo Park General Plan

The City of Menlo Park has a goal to promote the preservation of open space lands for the protection of natural/biological resources. The City's General Plan Policy OSC1.2 (Habitat for Open Space and Conservation Purposes) requires new development to preserve, protect, maintain and enhance water, water-related areas, and plant and wildlife habitat for open space and conservation purposes.

Ravenswood/4 Corners Specific Plan

The Ravenswood/4 Corners TOD Specific Plan includes natural resources goals and policies for new development. Specific Plan Policy UTIL-5.1 requires that new development does not adversely affect the Ravenswood Open Space Preserve and Palo Alto Baylands Natural Preserve.

Midpeninsula Regional Open Space District Resource Management Policies

MROSD established policies in December 2014 to protect and manage resources (e.g., plants, animals, water, scenic, and cultural features) on MROSD lands. These resources also include large predators which are a strong indicator of a healthy habitat. These predators include gray foxes and coyotes, which are at the top of the food pyramid and depend on the availability of smaller animals.

[3] Other portions of the Ravenswood Open Space Preserve are located northerly of the Dumbarton rail line and are within BCDC jurisdiction. However, the shoreline band from that portion of the Preserve does not extend to the trail alignment.

The project's implementation of the following Resource Management Policies would help maintain and promote healthy and diverse native wildlife populations:

- Policy WM-1: Understand and maintain the diversity of native wildlife.
  - Identify wildlife usage, movement patterns, and habitat features with high value to wildlife.
  - Consider and avoid or minimize impacts on wildlife when planning trails and other facilities.

- Policy WM-2: Protect, maintain and enhance habitat features that have particular value to native wildlife.
  - Evaluate the wildlife habitat value associated with human-made structures before altering or removing them and avoid or mitigate any impacts.

- Policy WM-3 Protect animal populations against the impact of human actions.
  - Discourage human intrusion into sensitive wildlife habitats by appropriate placement of facilities and trails.

The District's Resource Management Policies also include policies and management measures to protect sensitive plant species. The goal of these policies is to sustain and promote viable and diverse native plant communities characteristic of the region. These policies include the following:

- Policy VM-1: Maintain the diversity of native plant communities.
  - Map and describe plant communities; analyze successional trends and formulate site-specific vegetation management goals as part of the Resource Management Plan for a preserve or geographic area.
  - Identify appropriate areas for restoring lost or altered native plant communities and restore them to a natural condition. This is often best done by restoring natural processes and controlling invasive plants, rather than by planting.
  - Manage native grassland sties to encourage reestablishment and perpetuation of California native grasses.
  - Control invasive non-native plants.
- Policy VM-2: Use native species occurring naturally on similar sites in ecological restoration projects.
  - Use seed and cuttings collected from the same geographical area to revegetate or enhance degraded areas. One source of native seed is topsoil or mulch taken from adjacent intact habitat and applied thinly.
  - Use fill, mulch, and seed mixtures that are as free as possible of non-native plants in ecological restoration projects. Know where such materials come from.
  - Work with nurseries to grow native plants needed for ecological restoration projects.

- Avoid seeding with rye grass (unless sterile), "Zorro" fescue, Harding grass, or other non-native aggressive plants after fires to control erosion.
- Use plant material that is biologically and visually appropriate to the surrounding wild landscape and appropriate to the stage of plant community development at the site.
- Encourage District tenants to use native plants for landscaping to provide natural habitat.

- Policy VM-3: Protect and enhance the habitats and populations of special status plant species.
  - Identify the location and condition of special status plants and their habitats as part of the Resource Management Plan for a preserve or geographical area.
  - Conduct surveys for special status plants during the appropriate season before significant site-specific development or any unusual anticipated increase in use. Modify the project or use to avoid impacting such plants.
  - Project areas with special status species from human activities and other negative impacts such as erosion. Examples of protective measures include trail rerouting, signs, and fencing.

4.4.1.2 *Existing Biological Resources*

The proposed 3,000-foot long Bay Trail alignment (under options 1 and 2) would extend from University Avenue in East Palo Alto to Ravenswood Open Space Preserve in the City of Menlo Park.

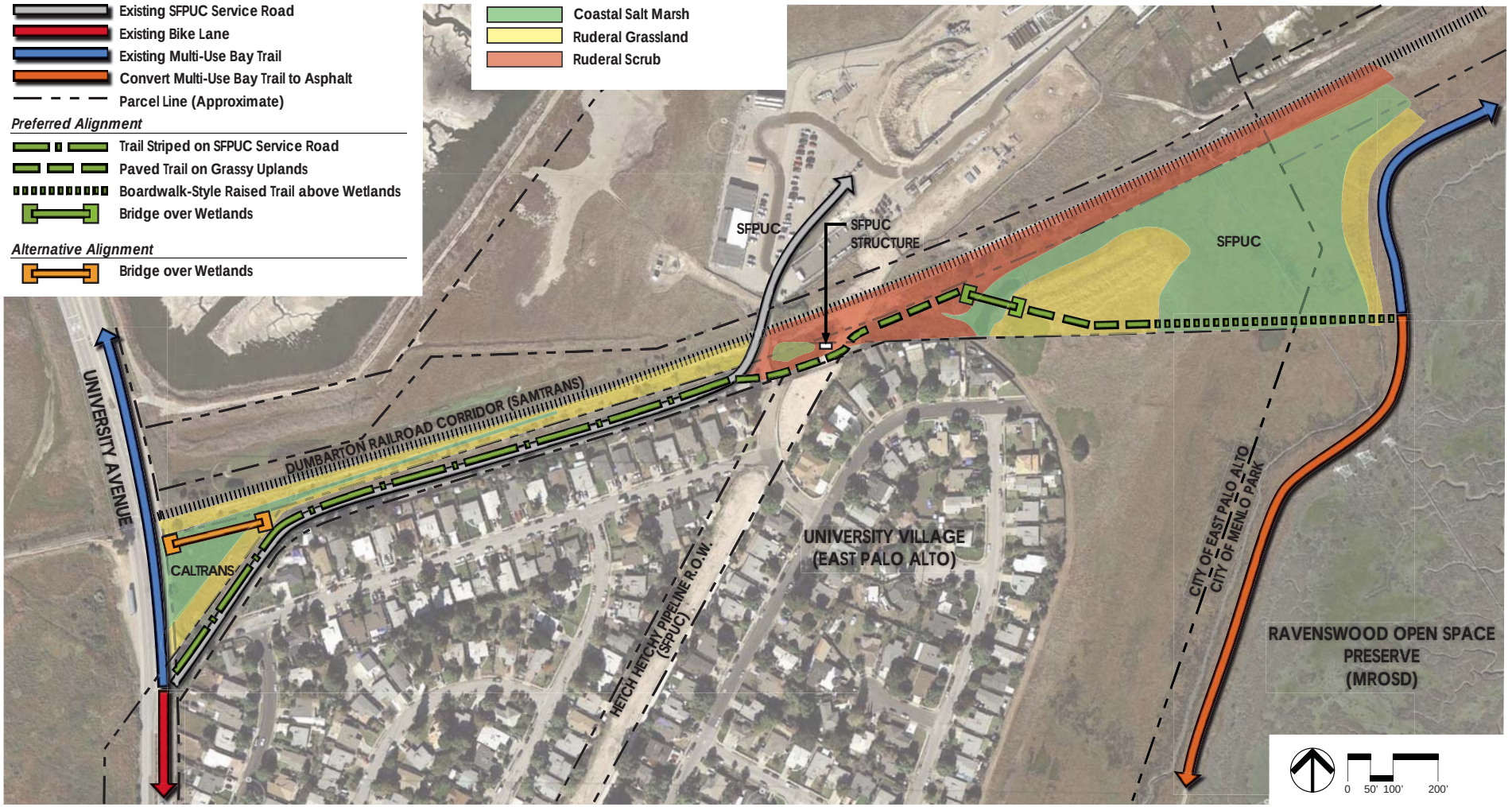
Field observations were completed in April 2011, December 2014, and September 2016 to assess biological resources and to evaluate the extent of the wetlands within the project study area. To assess the occurrence of special status plant and animal species, a search was completed on the California Native Plant Society's Electronic Inventory and the CDFW's Natural Diversity DataBase RareFind (CNDDB) in 2014 and was re-searched in 2016.

4.4.1.2 *Biological Habitats*

Northern coastal salt marsh, ruderal grassland, and ruderal scrub are the biological habitats that were observed on the project site and described in detail below. The distribution of these habitats within the project area is shown in Figure 4.4-1.

Ruderal Grassland

Upland, ruderal (weedy) grassland occurs adjacent to the SFPUC service road and in higher elevation areas south of the railroad. The weedy vegetation consists of non-native grasses including ripgut brome, wild oat, canary grass, rattail fescue, and Italian ryegrass. Forbs, which are primarily non-native grasses, are also common in the project area. Forbs on the project site include summer mustard, wild mustard, iceplant, slender/Italian thistle, fennel, bristly ox-tongue, wild radish, and



DISTRIBUTION OF HABITAT TYPES IN PROJECT AREA

FIGURE 4.4-1

salsify. One patch of creeping ryegrass, a California native grass, was observed near the pond east of the Hetch Hetchy right-of-way.

The ruderal grassland serves as forage for small rodents, which attract predators such as raptors. The grassland also provides forage for insect and seed eating birds. Bird species that commonly occur in the project area include the European starling, mourning dove, Brewer's blackbird, and the cliff swallow. Additional wildlife species that commonly occur in these grasslands are the ground squirrel, Botta's pocket gopher, and black-tailed jackrabbit. The occurrence of mammals attracts predators such as the coyote, gopher snake, and red-tailed hawk.

Ruderal Scrub

Ruderal scrub consists of weedy shrubs, small non-native trees, and herbaceous plants which occur along the edges of the railroad and along the existing SFPUC service road. The weedy shrubs are non-native and consist of evergreen landscape and olive shrubs. Common herbaceous plants that occur are typical of those common in ruderal grasslands including wild oat, fennel, ripgut brome, canary grass, and wild mustard. California poppy, a native annual plant, has also been observed in the project area. Typical wildlife species found in this habitat include the California towhee, western fence lizard, coyote, and white-crowned sparrow. The seeds of herbaceous plants and berries of shrubs can serve as forage for wildlife. Wildlife may also utilize mixed scrub for hunting opportunities or dense scrub as cover.

Northern Coastal Salt Marsh

The northern coastal marsh is on a low elevation plain south of the railroad. This marsh is recognized by state and federal agencies as sensitive habitat due to its significance to animal species and San Francisco Bay's ecosystem. Sensitive habitats are defined as habitats that support special status species such as CDFW Species of Special Concern, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide biological diversity. CDFW classifies this marsh habitat as pickleweed mats (CDFW Code 52.215.09).

Pickleweed mats, which exist within the coastal marsh, are ranked by CDFW as "S3" and considered a plant community of Special Concern.[4] The S3 classification ranking indicates that the species is highly imperiled in California. The marsh supports an intermittent population of pickleweed plants. Other plant species at the marsh also include salt grass, marsh gumplant, alkali heath, California cordgrass, and Mediterranean barley. An open water pond is located north of University Village and small ponds and channels occur within the marsh.

The water from the marsh comes from subsurface flow (groundwater) and a tidal connection to the south and east. Inundation of tides into the marsh occurs during the rainy season, which results in saline soils and the occurrence of saltwater plant species in these soils.

[4] California Department of Fish and Game. *Natural Communities List Arranged Alphabetically by Life Form*. September 2010. Available at: <http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_list.asp>. Accessed July 13, 2015.

Nutrients and substrates for invertebrates are provided in small pools and channels within the marsh; these invertebrates serve as forage for birds and small mammals. Typical native wildlife observed at the marsh includes the great blue heron, snowy egret, black-necked stilt, willet, western sandpiper, and the salt marsh harvest mouse.

Special Status and Native Wildlife Species

The CDFW's CNDDB for the project site's USGS quadrangle (Palo Alto) and surrounding quadrangles was assessed in 2012, 2014, and 2016 to determine the potential occurrence of special status wildlife species in the project area (refer to Tables 1 and 2 of the Biological Report in Appendix A in this Initial Study). Reconnaissance site visits occurred in April 2011, July 2014, December 2014, November 2015, and September 2016; however, no focused surveys for breeding birds or other wildlife species were conducted. Sixteen species were listed in CDFW's CNDDB's database as federal or state agency threatened or endangered species or were identified as state species of special concern in the project area. Of the 16 special status wildlife species identified on CNDBB for the project area, 12 of these species (e.g., western pond turtle, San Francisco garter snake, and the San Francisco dusky-footed woodrat) have no potential to occur on the project site due to lack of suitable habitat (e.g., lack of freshwater or woodland habitat).

Breeding habitat for snowy plover is absent within the project site, as they primarily breed on salt flats or other bare areas. However, snowy plover has been known to breed in sites north of the project site (San Francisco Bay Bird Observatory, 2014).

Breeding habitat for least tern and saltmarsh common yellowthroat is also absent within the project site. California least tern nests in coasts and bay margins with sandy beach, alkali flat, and open bare ground. There is no known nesting habitat for least tern within 1.2 miles of the project site (CDFW, 2016). Saltmarsh common yellowthroat nests in dense vegetation (cattails, rushes) at water's edge of freshwater ponds, estuaries, and creeks. The closest known nesting habitat for saltmarsh common yellowthroat is greater than 1.2 miles southeast of the project site.

The project area has marginal habitat for the salt marsh harvest mouse (listed as endangered by federal and California agencies), which occurs within the project area as well as in the adjacent portions of Ravenswood marsh to the north and south (H.T. Harvey & Associates. 2006, CNDDB 2016), and the salt-marsh wandering shrew (a California Species of Concern), which occurs within a salt marsh within one mile of the project area. Both species may be present in the salt marsh in low numbers. The project area does not provide breeding habitat for the California Ridgway's rail (federal- and California-listed endangered species)[5] or the California black rail (California-listed threatened species); however, they both may occasionally forage in the project area. None of the above listed individuals were observed during the site visits in April 2011, July 2014, December 2014, November 2015, and September 2016.

Gray foxes are native and also known to occur in the project area. Although the species is not considered a designated special status wildlife, the gray fox is a predator and is essential to the food

[5] California Ridgway's rail is formerly known as California clapper rail.

chain on MROSD lands. The species is monitored by MROSD and Resource Management Policies are in place to protect the gray fox and other native predators in the project area.

Special Status Plant Species

The project area was evaluated for special status plant species listed by either the federal or state resource agencies and those identified as rare by the California Native Plant Society (CNPS). Based on a search of the CNPS and CNDDB inventories, the project area has limited resources to support many special status species. Sixteen species were listed on these inventories as having the potential to occur in the project vicinity (within five miles of the project site). Specialized habitats and substrates that support most of the listed special status plant species do not occur within the project area. Additionally, the weedy condition of the upland grassland limits the potential for special status species to occur within the project area. Based on the review of the database search and the project site's conditions, only three species have the potential to occur within the project site: Congdon's tarplant, Hoover's button-celery, and caper-fruited tropidocarpum. Some sections of the project area, such as areas along the salt marsh edge or lower elevation areas within the grasslands may provide suitable habitat. The Congdon's tarplant has been recorded (in the CNDBB) to have occurred south of the railroad tracks. During a November 2015 biological survey completed by Biotic Resources Group, a patch of five Congdon's tarplants were observed on-site, just south of the open water pond. Subsequent site visits in September 2016 failed to detect any Congdon tarplants. No other special status plant species were observed during the April 2011, December 2014, or September 2016 surveys.[6]

Habitat Conservation Plan, Natural Community Conservation Plan

The project site is not subject to an approved Habitat Conservation Plan (HCP), Natural Community Conservation Plan or other approved local, regional or state habitat conservation plan.

4.4.2 Environmental Checklist and Discussion of Impacts

BIOLOGICAL RESOURCES					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					

[6] The Congdon's tarplant may have been present during a MROSD July 2014 visit. However, the presence of the plant was not identified or confirmed during the April 2011 or December 2014 biological field surveys; species was observed in November 2015.

BIOLOGICAL RESOURCES	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐	1,2,15
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐	1,2,15
3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐	1,2,15
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☒	☐	1,2,15
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐	1,6,15
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒	1,2

4.4.2.1 *Biological Resources Impacts*

Long-term impacts associated with increased public access on nesting bird and salt marsh harvest mouse habitat after the trail is built are not expected to be greater than impacts created by the existing

Bay Trail in Ravenswood OSP or existing unauthorized use of the site. Trail design, enforcement of District regulations (trash control and hourly use restrictions), and an increased presence of legitimate use are anticipated to reduce impacts from existing unauthorized use.

The construction of a trail on the project site would increase public access and could potentially increase trash left by trail users. Policy is to "pack in and pack out", so that all visitors pack out their trash. Policy and regulations are enforced and typically compliance is high. If monitoring shows otherwise, the District would consider additional measures as necessary including increased patrol or the addition of a self-closing garbage can.

Impacts to Special Status Mammal Species

The salt marsh harvest mouse (state and federally listed endangered species) occurs within the project area (H.T. Harvey & Assoc. 2006, CNDDB 2016) as well as in adjacent Ravenswood marsh to the north and south, and the salt-marsh wandering shrew (California Species of Concern) has been documented within one mile of the project area (CNDDB 2016). Since both species are likely to occur in low numbers (due to marginal habitat), it is possible that activities including the use and transportation of equipment and construction may result in direct mortality and/or noise disturbance to both species within the northern coastal salt marsh and ruderal grassland or scrub. The possible indirect effects to both species include harassment to individuals due to relocation prior to construction, and both temporary and permanent loss of habitat. Total temporary impacts to salt-marsh harvest mouse and salt-marsh wandering shrew habitat are estimated to include approximately 12,500 to 14,500 square feet of coastal salt marsh habitat. Permanent impacts to potential salt marsh harvest mouse and the salt-marsh wandering shrew habitat are estimated to include 300 to 2,000 square feet of coastal salt marsh habitat.

Impact BIO-1: Project development could result in significant impacts to federally- and state-listed endangered salt marsh harvest mouse and the salt-marsh wandering shrew (California Species of Concern) individuals and their habitat.

Implementation of the following mitigation measures would reduce the salt marsh harvest mouse and the salt marsh wandering shrew impacts to a less than significant level by ensuring the project does not have a substantial adverse effect on either of these protected species. These measures are consistent with the Ravenswood/4 Corners TOD Specific Plan FEIR mitigation measures BIO-2a and BIO-2b.

MM BIO-1.1: The project proponent shall consult with the USFWS and CDFW through the Section 7 process for the 404 permit from the USACE, or the Section 10 process, and obtain all necessary approvals for implementing measures to protect these species.

MM BIO-1.2: A contractor education program shall be developed to educate all construction personnel of the potential presence of sensitive, endangered, or threatened wildlife species before they begin any work on the job site. Personnel shall be notified of the species' sensitivity to human activities, the legal protection afforded to these species, the penalties for violating these legal protections, their responsibilities,

applicable mitigation measures, and the roles and authority of the monitoring biologists.

MM BIO-1.3: Prior to any project construction activities, wildlife exclusion fencing that prevents the entry of salt-marsh harvest mouse and salt-marsh wandering shrew shall be installed around all work areas adjacent to suitable salt-marsh harvest mouse habitat (i.e., coastal salt marsh with pickleweed and adjacent upland escape habitat). The final design and placement of the wildlife exclusion fencing shall be developed in consultation with the USFWS and CDFW.

MM BIO-1.4: A qualified biologist shall design and oversee installation of all areas within the wildlife exclusion zones that support suitable pickleweed or upland escape habitat. If any salt-marsh harvest mouse or salt-marsh wandering shrew are captured within the enclosed areas, they shall be relocated by qualified personnel according to the requirements of USFWS and CDFW. All captured mice and shrews shall be relocated to the nearest appropriate habitat outside the exclusion fencing. The wildlife exclusion fencing shall be maintained as long as construction-related activities are conducted adjacent to suitable salt-marsh harvest mouse and salt-marsh wandering shrew habitat (including the habitat below the raised boardwalk). The contractor shall inspect the fence weekly to ensure its integrity. The integrity of the fence shall be verified by a qualified biological monitor. The USFWS and CDFW may revise the scheduling and frequency of the monitoring.

MM BIO-1.5: All work associated with the boardwalk (i.e., anchor piers and wood decking) shall be done by hand crews, using hand tools, including hand-held drills and other equipment. Cranes would then be required to place the bridge segments on their supports/abutments.

MM BIO-1.6: Upon the completion of construction, any upland areas used for stockpiling of spoils and/or construction equipment and supplies shall be restored in accordance with an approved erosion control plan. Surface grade shall be restored and revegetated with an erosion control seed mix comprised of appropriate native herbaceous plant species.

MM BIO-1.7: Permanent impacts on suitable salt-marsh harvest mouse or salt-marsh wandering shrew breeding habitat and upland habitat shall be mitigated at a ratio of one square foot restored/enhanced for each square foot lost (1:1). Since only a small area of coastal salt marsh shall be permanently affected by this project (approximately 300-2,000 square feet), mitigation shall consist of enhancement of a minimum of 300-2,000 square feet of nearby suitable salt-marsh harvest mouse habitat (potentially on other lands owned by MROSD, SFPUC, or other public agencies), subject to the approval of the USFWS and CDFW. Restoration shall consist of installing pickleweed plants in areas lacking vegetation, removing invasive vegetation in saltmarsh or nearby uplands, or decompacting/decommissioning old roads or social trails to meet the 1:1 ratio. Impacts to upland habitat shall be mitigated by planting/enhancing other upland

areas at a minimum of the 1:1 ratio (potentially on other lands owned by MROSD, SFPUC or other public agencies); tasks may include removal/control of invasive, non-native plant species or other measures as identified by CDFW and USFWS.

MM BIO-1.8: Temporary impacts to suitable salt-marsh harvest mouse and salt-marsh wandering shrew habitats shall be rehabilitated on-site, as stated in measure MM BIO-1.6, and are subject to the approval of the USFWS and CDFW.

Impacts to Special Status Bird Species

The project site provides potential foraging habitat for the following shorebirds: the California Ridgway's rail (state and federally listed endangered species) and the California black rail (California-listed threatened species). The site does not contain suitable nesting habitat for nesting by these bird species due to the intermittent coverage of pickleweed and sparse cover of cordgrass. Both species, however, could occur at the project site in low numbers, mainly for foraging or resting. It is unlikely that these species would be injured or killed by equipment during construction due to their ability to fly. Indirect impacts on these species, however, could include harassment of individuals by noise disturbance or causing them to flush during construction.

Impact BIO-2: Project construction could result in short-term significant impacts to federally- and state-listed endangered California Ridgway's rail and California black rail individuals.

Implementation of the following mitigation measures would reduce the California Ridgway's rail and California black rail impacts to a less than significant level by ensuring the project does not have a substantial adverse effect on these state-listed endangered species. These measures are consistent with the Ravenswood/4 Corners TOD Specific Plan FEIR mitigation measure BIO-3a.

MM BIO-2.1: The project proponent shall consult with the USFWS through the Section 7 process for the 404 permit from the USACE, and obtain all necessary approvals for work affecting protected species.

MM BIO-2.2: A contractor education program shall be developed, with specific information for all construction personnel working in the vicinity of potential habitat for special-status shorebirds.

MM BIO-2.3: Within 90 days before land-clearing operations begin, a qualified ornithologist shall perform a habitat assessment to determine if suitable nesting habitat for any of these species is present within 100 feet of construction limits. If no suitable nesting habitat is found, no further actions would be warranted.

MM BIO-2.4: If suitable breeding habitat occurs within 100 feet of the limits of operations, no more than 15 days before land-clearing operations begin, the ornithologist shall complete focused surveys to determine whether special-status shorebirds have occupied that habitat. The surveys shall typically occur during breeding season, which extends from February 1 to August 31 for California Ridgway's rail, and

from March 15 to July 15 for California black rail. If construction does not occur during the breeding season for California Ridgway's rail or California black rail, pre-construction surveys for these birds would not be required. If no special status shorebirds are present, construction may proceed with no adverse effect and no further actions warranted.

MM BIO-2.5: If special-status shorebirds are present, the project proponent shall consult with the USFWS and CDFW regarding the implementation of appropriate protective measures. Measures shall generally include establishing a "no-work" buffer zone in the vicinity of active occupied nests, with the size of the buffer to be determined by the ornithologist in consultation with USFWS and CDFW. All buffer zones shall be designated on construction drawings and delineated in the field by orange construction fencing or a similar visual barrier to equipment operators and personnel. The buffer zone barrier shall be monitored and maintained until the end of the breeding season and as approved by a qualified biologist.

MM BIO-2.6: Encroachment of construction activities within a designated buffer zone around occupied nests may occur only after consultation with and concurrence by USFWS and CDFW and with nest monitoring and restrictions on the type of operations (e.g., limits on noise, distance to the nest) to ensure the project does not have a substantial adverse effect on nesting bird.

Impacts to Movement of Native Wildlife Species

MROSD's Resource Management Policies include policies that protect common predator species on its open space lands. As an example, the gray fox is a common native predator species that has been identified in the project area. The proposed trail project would not significantly impact the gray fox or any other native predators in the area because it would not create any substantive barriers to their movement and any loss of habitat would be minimal. Impacts have been further minimized by the implementation of MROSD Resource Management Policy WM-3, which influenced the project design to discourage human intrusion into sensitive wildlife habitats by appropriate placement of the trail. Any proposed fencing separating the public trail and SFPUC Ravenswood Valve Lot should have provisions in the fence design to eliminate barriers for wildlife movement.

Impacts to Nesting/Migratory Birds

The project would not interfere substantially with movement of or impede the use of native wildlife nursery sites for native or migratory wildlife. There is a possibility, however, for nesting birds, including raptors, to be present in on-site trees prior to project construction. Additionally, there are off-site electrical towers that could be utilized as perching sites by falcons and various raptor species. Nesting birds, including raptors, are protected under the provisions of the Migratory Bird Treaty Act and the CDFW Code Sections 3503 and 3503.5. Construction noise disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or could otherwise lead to nest abandonment. Nest abandonment and/or loss of reproductive effort caused by disturbance are considered a "take" by the CDFW and, therefore, would constitute a significant impact.

Impact BIO-3: The project could result in significant impacts to nesting birds if present on-site prior to or during project construction.

Implementation of the following mitigation measures would reduce the nesting bird impacts to a less than significant level by ensuring the project does not have a substantial adverse effect on nesting birds. These measures are consistent with the Ravenswood/4 Corners TOD Specific Plan FEIR mitigation measure BIO-3a.

MM BIO-3.1: Construction, including vegetation removal, during the active nesting season for breeding birds (February 1 – August 31) shall be avoided as much as feasible in areas that are not currently developed. If construction during the breeding season cannot be avoided, pre-construction breeding bird surveys within 0.25 miles of active construction shall be completed within 14 days prior to ground disturbance to avoid disturbance to active nests, eggs, and/or young of ground-nesting birds. Surveys can be used to detect the nests of special status as well as non-special status birds protected under the Migratory Bird Treaty Act. A buffer zone where no construction would be allowed shall be established around any active nests of any avian species found in or immediately adjacent to the project area until a qualified ornithologist has determined that all young have fledged. The size of the exclusion zones may depend on species, location, and placement of nest, and shall be determined by a qualified ornithologist and, if necessary, the USFWS and the CDFW.

Impacts to Special Status Plant Species

No special status plant species listed by CDFW, USFWS, or local plans were identified in the project area during the April 2011, December 2014, or September 2016 biological field surveys. Five Congdon's tarplants were, however, observed during a November 2015 survey of the project site; the plants were found south of the open water pond. No other special status plant species have been documented in the project area. If occurrences of this species are discovered within the proposed trail's construction alignment, disturbance to the species and its habitat would occur.

Impact BIO-4: If the Congdon's tarplant (special status plant species) is discovered within the proposed trail alignment, construction within this alignment could significantly impact this species.

Implementation of the following mitigation measures would avoid or minimize impacts to the Congdon's tarplant by ensuring the project would not have a substantial adverse effect on the plant:

MM BIO-4.1: A pre-construction survey shall be completed during the blooming period of the tarplant by a qualified biologist; the typical blooming period is from June through October. Occurrences of Congdon's tarplant shall be documented by a global positioning system (GPS) and demarcated on project plans and in the field. A CNDDB field survey form shall be completed and submitted to CDFW. If the Congdon's tarplant is discovered within the proposed trail alignment, the trail shall be re-routed to avoid the plant. If avoidance is not feasible, a qualified MROSD

personnel shall collect available seeds from the plants in the impact area. MROSD shall develop and implement a revegetation program wherein the collected seed would be distributed into suitable habitat within the project vicinity to achieve no net loss of tarplant individuals. The success of the revegetation program shall be monitored yearly for a period of three years. Monitoring shall consist of a yearly census of Congdon's tarplant plants. The revegetation program shall be deemed successful if there is no net loss of tarplant individuals each year for three years. If this performance standard is not met in any of the monitoring years, MROSD will implement remedial revegetation actions, such as re-seeding, weeding, or other actions, as determined by a qualified restoration ecologist, until performance standards are met.

MM BIO-4.2: If the Congdon's tarplant is found adjacent to the construction area, prior to construction, temporary construction fencing shall be installed to provide a buffer around the plant under the supervision of a qualified biologist or biological monitor along the edge of construction area to prevent any inadvertent equipment entry or other site disturbance into areas that support Congdon's tarplant. A contractor education program shall be developed to educate all construction personnel of the potential presence of sensitive, endangered or threatened plant species before they begin any work on the job site. Personnel shall be notified of the species' sensitivity to human activities, the legal protection afforded to these species, the penalties for violating these legal protections, their responsibilities, applicable mitigation measures, and the roles and authority of the monitoring biologists.

Impacts to Sensitive Habitats from the Proposed Alignments

Two alignment options for the proposed trail are under consideration. The first option for the proposed trail alignment would use the SFPUC service road from University Avenue for approximately 1,400 linear feet (with a new gravel shoulder along the north side), after which the trail would traverse approximately 525 linear feet of upland grassland, connect to a 80-120 foot single-span bridge (over wetlands and open water pond), become a paved trail through upland grassland for 400 feet, then transition to an approximately 400 foot long raised boardwalk over the coastal marsh to its terminus with the existing Bay Trail within MROSD's Ravenswood Open Space Preserve. The second option for the proposed alignment is similar but the proposed trail alignment would begin with a bridge over the Caltrans wetland. Then the trail would be located on the SFPUC service road from University Avenue for approximately 1,040 linear feet and would traverse approximately 775 linear feet of upland grassland and include the bridge over the pond and raised boardwalk over the coastal salt marsh (as per the preferred alignment).

Both options for the trail alignment would result in permanent and temporary impacts to the coastal salt marsh. Impacts would occur during construction of the raised boardwalk and the bridges (refer to the description of first and second options in the paragraphs below). This would occur from installing the wood piles or helical anchor piers, attaching the boardwalk structure to the piers and bridge construction. Vegetation in and adjacent to the structures could be impacted where hand crew

work is allowed and cranes will lower the structures into place; the vegetation within these areas, however, is expected to naturally recover after the next growing season.

For both alignments, construction of the paved trail through the central grassy area may require temporary construction access across a small wetland area to reach the trail construction area (if an upland access route across private property from Fordham Street within University Village is not available). Wetland construction matting is proposed to cover any wetland areas needed for the temporary access to minimize trampling of vegetation. The matting is expected to only be in place for no more than two days so the temporary impact to the marsh vegetation would not result in a significant impact to wetland or riparian habitat.

The pier foundations for the boardwalk would be installed by hand within marsh areas, thus avoiding large equipment use within sensitive habitats. The 80- to 120-foot long bridge (proposed for Option 1 and 2 alignments) would span the marsh and open water pond to minimize impacts to the wetland. The 230-foot bridge over the Caltrans wetland (proposed for the Option 2 trail alignment) would be one long span or multiple spans supported on piers within the wetlands. If multiple spans are required, piers would be positioned outside wetland locations to the extent possible.

For Option 1 and 2 alignments, temporary impacts to the coastal marsh will range from 12,500 - 14,500 square feet. Shading of the marsh from the raised boardwalk will range from 7,500- 9,500 square feet for Option 1 and 10,000-12,000 square feet for Option 2.

<u>First Option for the Proposed Alignment</u>

The first option for the trail alignment includes a single span bridge and a raised boardwalk over the sensitive habitat areas with the project area. The proposed bridge would span the seasonal pond and marsh in the central portion of the project area. A raised boardwalk, built approximately three to eight feet above the marsh, is also proposed to span the larger low-elevation marsh in the easternmost portion of the SFPUC and MROSD parcels at the eastern portion of the project area. The boardwalk would be supported by wood piles or helical anchor supports that would be hand-screwed into the ground surface. Permanent impacts to the coastal salt marsh would be limited to the footprint of the supporting shafts and possible shading of marsh vegetation from the elevated boardwalk. The helix would be underground and, therefore, no permanent impact to the coastal salt marsh is expected from the helix. Since the boardwalk would be raised approximately three to eight feet above the marsh, only a limited area under the boardwalk would be shaded, and the boardwalk would not significantly preclude growth of marsh vegetation. In addition, small areas within the marsh in this area are currently devoid of vegetation or support open water channels; these areas would not be impacted by the shade cast from the raised boardwalk. The trail alignment includes a 4-foot wide gravel shoulder along the north side of the SFPUC access road. Construction of the raised boardwalk and shoulder along the SFPUC road will permanently impact 300-2,000 square feet of coastal marsh.

<u>Second Option for the Proposed Alignment</u>

The second option for the alignment proposes a bridge to span the marsh wetland on the Caltrans property that is immediately east of University Avenue and at the western edge project area. Piers would be required to support the bridge and would be located in the wetland. The remainder of the

trail will traverse the same alignments as described for the first option using the same construction methods, and includes a single span bridge and a raised boardwalk over the sensitive habitat areas within the project area. The proposed bridge would span the seasonal pond and marsh in the central portion of the project area. A raised boardwalk three to eight feet above the marsh, is also proposed to span the larger low-elevation marsh in the easternmost portion of the SFPUC and MROSD parcels at the eastern portion of the project area. Construction of the raised boardwalk will be the same as described for the preferred alignment. As with the first option for the trail alignment, a raised boardwalk, built approximately three to eight feet above the marsh, is also proposed to span the larger low-elevation marsh in the easternmost portion of the project area. A four-foot wide gravel shoulder will be added to the north side of the SFPUC Service road. This option will permanently impact 300-2,000 square feet of coastal marsh

Measures to avoid, minimize, and/or compensate for coastal salt marsh impacts from construction, to ensure the project will not have substantial adverse effect on wetland or riparian habitat, and thus reduce any impact to a less than significant level for both options are outlined below in MM BIO 5.1-5.6.

Impact BIO-5: Construction of the proposed trail with bridge/boardwalk structures would result in temporary and permanent impacts to northern coastal salt marsh, a sensitive natural community.

Implementation of the following mitigation measures would avoid or minimize impacts to the northern coastal salt marsh by ensuring the project does not have a substantial adverse effect on wetland or riparian habitat. A mitigation measure also provided habitat compensation of permanent impacts to the coastal marsh. These measures are consistent with the Ravenswood/4 Corners TOD Specific Plan FEIR mitigation measure BIO-5.

MM BIO-5.1: A contractor education program shall be developed to educate all construction personnel of measures to prevent indirect impacts to wetlands and water resources.

MM BIO-5.2: Northern coastal salt marsh vegetation adjacent to the construction work areas shall be protected from inadvertent construction impacts by the placement of construction mesh fencing. The project applicant shall ensure that all fencing is in place prior to construction operations and/or grading. Fencing installation will be completed under the guidance of a qualified biologist.

MM BIO-5.3: The following erosion control measures shall be implemented during and following construction to avoid deposition of sediment into adjacent coastal salt marsh and watercourses:

- The project applicant shall install and maintain perimeter silt fencing or hay bales and implement post-construction erosion control seeding.
- The project applicant shall revegetate all disturbed [upland] areas with native plant species immediately after site preparation and grading.

- The project applicant shall use certified weed-free hay and seed.

MM BIO-5.4: Placement of temporary (up to two days) matting in the coastal salt marsh (for temporary construction access to the grassland area), if an upland alternative is not available may be subject to permitting under Sections 404 and 401 of the Clean Water Act and Section 1601 of the Fish and Game Code. The project applicant shall obtain all permits and certifications prior to construction, if required.

MM BIO-5.5: Placement of the bridge abutments and pile or helical anchor foundations (shafts and helixes) within the coastal salt marsh and construction of the four foot wide gravel shoulder along the north side of the SFPUC Service Road may be subject to permitting under Sections 404 and 401 of the Clean Water Act and Section 1601 of the Fish and Game Code. The project applicant shall obtain all permits and certifications prior to construction and adhere to all permit requirements, if so required by regulatory agencies.

MM BIO-5.6: The project proponent shall monitor the recovery of all coastal salt marsh areas temporarily affected by trail construction and/or equipment/worker access one year after boardwalk and bridge construction and construction access to the grassland area (if used). If native coastal salt marsh vegetation has not naturally recovered within the disturbed area and provided at least 30 percent native plant cover, the project proponent shall implement remedial seeding of the disturbed areas to induce marsh restoration. Seed from locally collected native coastal salt marsh plant species shall be used for the restoration work. The success of the recovery/revegetation program shall be monitored yearly for a period of three years. Monitoring shall consist of a yearly survey of plant cover within the affected areas. The revegetation program shall be deemed successful if there is a minimum of 30% native plant cover each year for three years. If this performance standard is not met in any of the monitoring years, MROSD will implement remedial revegetation actions, such as re-seeding, weeding, or other actions, as determined by a qualified restoration ecologist, until performance standards are met.

MM BIO-5.7: The project proponent shall implement a coastal marsh restoration/revegetation program to provide compensation for permanent impacts to the coastal marsh. The program shall restore/revegetate coastal marsh at a 1:1 impact to restoration ratio. Suitable low-elevation areas within the project area shall be selected for marsh restoration and these areas shall be revegetated with native coastal marsh plant species. Seed from locally collected native coastal salt marsh plant species shall be used for the restoration work. The success of the restoration program shall be monitored yearly for a period of 3 years. Monitoring shall consist of a yearly survey of plant cover within the restored areas. The revegetation program shall be deemed successful if there is a minimum of 30% native plant cover each year for 3 years. If this performance standard is not met in any of the monitoring years, MROSD will implement remedial revegetation actions, such as re-seeding,

weeding, or other actions, as determined by a qualified restoration ecologist, until performance standards are met.

The proposed project would not impact native or migratory fish corridors, since there is no suitable habitat on the site for these species. With the implementation of the above mitigation measures, the project would not significantly impact the migratory corridors for California Ridgway rail, California black rail, salt-marsh harvest mouse, salt-marsh wandering shrew, or gray fox. There are no native wildlife nurseries on the project site.

Impacts Related to Conflicts with Local Policies Protecting Biological Resources

The Cities of Menlo Park and East Palo Alto have policies that are designed to protect trees that are of a designated minimum size (or larger), commonly referred to as "ordinance-sized" trees. If such trees need to be removed, a permit is required and tree replacement is typically mandated.

Based on the proposed project design, removal of ordinance-sized trees is not anticipated to be required. Should it subsequently be determined that an ordinance-sized tree must be removed, compliance with local requirements, including replacement mandates, shall occur. The only plantings that would occur within SFPUC ROW would be the seeding of disturbed upland areas with native grass seed or any revegetation required by permit requirements or mitigation, consistent with the SFPUC Right of Way Integrated Vegetation Management Policy, as previously described in Section 4.4.1.1 of this Initial Study.

Consistency with Habitat Plans

As mentioned above, the project site is not subject to an approved Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, therefore, no impact would occur.

4.4.3 Conclusion

Implementation of the above mitigation measures would reduce all biological resource impacts to a less than significant level. **(Less Than Significant Impact with Mitigation)**

4.5 CULTURAL RESOURCES

The following discussion is based on the *Cultural Resources Study* completed by Holman & Associates in May 2011. This study is attached to the Initial Study as Appendix B.

4.5.1 Setting

4.5.1.1 *Applicable Plans, Policies, and Regulations*

National Historic Preservation Act

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

California Register of Historic Resources

The California Register of Historical Resources (CRHR) establishes a list of properties that are to be protected from substantial adverse change (PRC Section 5024.1). A historical resource may be listed in the CRHR if it meets any of the following criteria: 1) it is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; 2) it is associated with the lives of persons important in California's past; 3) it embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic value; 4) it has yielded or is likely to yield information important in prehistory or history.

The CRHR includes properties that are listed or have been formally determined to be eligible for listing in the NRHP, State Historical Landmarks, and eligible Points of Historical Interest. Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Other resources require nomination for inclusion in the CRHR. These may include resources contributing to the significance of a local historic district, individual historical resources, historical resources identified in historic resource surveys conducted in accordance with State Historic Preservation Officer (SHPO) procedures, historic resources or districts designated under a local ordinance consistent with the California Historic Resources Commission's procedures, and local landmarks or historic properties designated under local ordinance.

CEQA Regulations Regarding Human Remains

Section 15064.5 of the State CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on nonfederal land. These procedures are outlined in PRC Sections 5097 and 5097.98. These codes protect such remains from disturbance,

vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

California Native American Historical, Cultural and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner be notified. If the remains are of a Native American, the coroner must notify the NAHC. The NAHC then notifies those persons most likely to be related to the Native American remains. The Act stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

California Health and Safety Code

California Health and Safety Code Section 7050.5 regulates the procedure to be followed in the event of human remains discovery. Pursuant to Public Resources Code Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the County Coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are determined to be Native American, the Coroner is required to contact the NAHC. The NAHC is responsible for contacting the most likely Native American descendent, who would consult with the local agency regarding how to proceed with the remains. According to Section 15064.5 of the CEQA Guidelines, all human remains are considered a significant resource.

City of East Palo Alto General Plan

The City of East Palo Alto's General Plan consists of policies which have a goal to preserve historical, archaeological, and paleontological resources. Policy 1.1 requires new development to protect areas of important archaeological and paleontological resources.

Ravenswood /4 Corners TOD Specific Plan

The Ravenswood/4 Corners TOD Specific Plan includes cultural resources goals and policies to maintain and conserve historical, archaeological, and paleontological resources. Applicable Specific Plan cultural resource policies include:

- **Policy CUL-1.1:** Ensure that City, State, and Federal historic preservation laws, regulations, and codes are implemented, including State laws related to archaeological resources, to ensure the adequate protection of historic and prehistoric resources.

- **Policy CUL-1.3**: Require preparation of a project-specific Archaeological Resources Assessment (ARA) by a professional Archaeologist for any construction that will impact native soil in the parts of the Plan Area known to be archaeologically sensitive, that are within the 200-foot buffer of known historic and prehistoric resources, as recorded on the supplemental figure Archaeological Sensitivity Zones on file with the City.

- **Policy CUL-1.4:** Recognize that Native American human remains may be encountered at unexpected locations and impose a requirement on all development permits and tentative subdivision maps that upon their discovery during construction, development activity will cease until professional archaeological examination confirms that the burial is human. If the remains are determined to be Native American, applicable State laws shall be implemented. A professional Archaeologist with expertise in human remains must be retained to review, identify, and evaluate the discovery. The County Coroner and Native American Heritage Commission must be notified and the remains treated in accordance with State law.

City of Menlo Park General Plan

The City of Menlo Park's General Plan includes policies that protect and enhance cultural resources. Applicable cultural resource policies include:

- **Policy OSC3.1**: Prehistoric or Historic Cultural Resources Investigation and Preservation. Preserve historical and cultural resources to the maximum extent practical.

- **Policy OSC3.2:** Prehistoric or Historic Cultural Resources Protection. Require significant historic or prehistoric artifacts be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation, and to ensure compliance with local, State and Federal regulations.

- **Policy OSC3.3:** Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either on site or through appropriate documentation as a condition of removal. Require that when a development project has sufficient flexibility, avoidance and preservation of the resource shall be the primary mitigation measure, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.

- **Policy OSC3.4:** Prehistoric or Historic Cultural Resources Found During Construction. Require that if cultural resources, including archaeological or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.

4.5.1.2 *Existing Archaeological and Historic Resources*

Archaeological Resources

The proposed project area consists of a SFPUC service road, an upland grassy area, and a marsh area. According to historic photographs and records, the entire project area was tidal marsh until the mid-twentieth century, when it was filled to construct housing. In addition, a portion of the project area that is now the Ravenswood Open Space Preserve was formerly used as a salt evaporation pond. In 2000, the levees surrounding the former salt pond were breached and tidal flow restored so that it could be naturally converted to tidal marsh habitat.

An archaeological literature review at the Northwest Information Center was completed on May 2, 2011 to obtain reports of archaeological surveys, and records of historic and prehistoric sites in and around the project area. In addition, the SFPUC Hetch Hetchy Bay Tunnel Pipeline Project, the City of East Palo Alto's Cooley Landing Project, and the Ravenswood/4 Corners TOD Specific Plan cultural studies were reviewed.

As mentioned above, the entire project site was tidal marsh well into the mid-20th century. The project area likely was too wet to have supported any type of settlement over the past 3,000 years. If cultural resources existed there in the past, they would date back to the period 4,000 to 6,000 years ago when the bay began to rise.

There are no recorded archaeological sites located within the project site study area. Further, according to the SFPUC, no buried archaeological resources have been reported as part of the recent excavation for the Hetch Hetchy Bay Tunnel Pipeline Project.

Based on the above information, while the potential for the proposed project to impact buried archaeological resources cannot be ruled out, the likelihood is considered low.

Historical Resources

According to the Ravenswood/4 Corners TOD Specific Plan EIR, the Hetch Hetchy Aqueduct Bay Division Bay Pipeline No. 1 and 2 Alignment, which crosses through the project site, is a historic resource that is eligible for the NRHP and the CRHR. The Dumbarton Railroad Corridor, which is adjacent to the proposed trail alignment, is eligible for the NRHP.

4.5.1.3 *Paleontological Resources*

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. Ancient marine sediments may contain invertebrate fossils such as snails, clam and oyster shells, sponges and protozoa; and vertebrate fossils such as fish and sea lion bones. Fossil vertebrate land animals may include bones of reptiles, birds, and mammals. Paleontological resources also include plant imprints, petrified wood, and animal tracks. Paleontological sites are those areas that show evidence of pre-human activity. The age and abundance of fossils depends on the topography and geological formations of the region of interest. Most fossils in the Peninsula and San Francisco Regions are found along the immediate Pacific Ocean coastline, and in locations within the outcropping marine units in the Santa Cruz Mountains.

A paleontological sensitivity rating is derived from fossil data from the entire geologic unit, not just from a specific survey area. A threefold classification of sensitivity, based on the high, low and undetermined potential for paleontological resources, is used in California and has been recommended by the Society of Vertebrate Paleontology. Geologic units of Holocene age are generally not considered sensitive for paleontological resources because biological remains younger than 10,000 years are not usually considered fossils. These sediments have low potential to yield fossil resources or to contain significant nonrenewable paleontological resources.

The project area includes artificial fill, Holocene age bay mud, and floodplain and basin deposits. According to the online database maintained by the Museum of Paleontology at the University of California at Berkeley, there are no records of known fossils sites located within the project area. The potential for important paleontological resources from these soil deposits is limited due to their young age; most fossil plant and animal remains in these deposits are of existing species. The areas underlain by artificial fill, bay mud and deposits are, therefore, classified as a low sensitivity. In addition, there are no nearby paleontological sites that are within the same geologic unit that the project alignment would cross.[7]

4.5.2 Environmental Checklist and Discussion of Impacts

CULTURAL RESOURCES					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Cause a substantial adverse change in the significance of an historical resource as defined in §15064.5?	☐	☐	☐	☒	1,2,17
2) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☒	☐	☐	1,2,17
3) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☐	☒	1,2,17
4) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	1,2,17

4.5.2.1 *Cultural Resources Impacts*

Historic Resources

As described above, there are two potentially eligible historic resources within or near the project area, namely the Hetch Hetchy Aqueduct and the Dumbarton Rail Corridor. For the following reasons, the construction of a trail would not alter or degrade these historic resources:

- The Hetch Hetchy Bay Division Pipeline extends approximately 21 miles from Fremont to Redwood City and the small crossing for the trail would have no impact on its significance related to its association with the Hetch Hetchy water system from 1924 to 1936.

[7] SFPUC. *Bay Division Pipeline Reliability Upgrade Project. Alameda and San Mateo Counties. Final Environmental Impact Report*. Volume 1, Chapter 1 through 4, Section 4.7. July 2009.

- The Dumbarton Railroad Corridor is outside the project site and the trail construction would not affect the integrity of the district's location, setting, and association with the Southern Pacific Railroad system.

Further, there are no historic buildings or structures within the project area that would require removal or modification under the proposed project.

Based on this assessment, the proposed trail project would not result in any adverse impacts to historic resources.

Archaeological Resources

Construction of the proposed trail should have no effect on buried prehistoric archaeological resources, as long as work occurs in historically filled areas or in those areas which are still at the original bay marsh elevations. Any prehistoric archaeological deposits (including human remains that may be interred outside of a cemetery) in these areas would be deep enough to be protected from construction of the proposed trail. However, although the likelihood for the project to impact buried archaeological resources is considered low, since the presence of a previously-undiscovered site cannot be ruled out and since the exact soil conditions and depth required for the boardwalk piers won't be determined until final design, it is not possible to confirm at this time that archaeological resources would not be impacted during construction.

Impact CUL-1: Implementation of the project could result in the destruction of unknown subsurface archaeological resources, including human remains that may be interred outside of a cemetery.

Implementation of the following mitigation measure would reduce archaeological resources impacts to a less than significant level. These measures are consistent with the Ravenswood/4 Corners Specific Plan policies CUL-1.1, CUL-1.3, and CUL-1.4.

MM CUL-1.1: At the time structural and geotechnical design is completed, a professional archaeologist shall be retained to review the soil data to determine if monitoring is required to avoid cultural resources impacts. If monitoring is required, a professional archaeologist shall oversee the excavation for boardwalk piers.

MM CUL-1.2: Should any archaeological indicators be exposed or discovered during either site preparation or subsurface construction activities, all construction work within a 50-foot radius of the find shall be stopped until the professional archaeologist has an opportunity to evaluate the significance of the find and suggest appropriate mitigation as determined necessary to protect the resource. The City of East Palo Alto Planning Manager and City of East Palo Alto Engineer shall be notified and if the find is within the City of Menlo Park, the City of Menlo Park's Community Development Director shall also be notified.

MM CUL-1.3: In the event that Native American human remains or funerary objects are discovered, the provisions of the California Health and Safety Code shall be followed. Section 7050.5(b) of the California Health and Safety Code states:

- In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the San Mateo County Coroner has determined, in accordance with Chapter 10 of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

Paleontological Resources

The project area includes artificial fill and Holocene bay mud soil deposits, which are classified as having a low paleontological sensitivity. In addition, there are no known nearby paleontological sites that are within the same geologic unit that the project trail would cross; therefore, the proposed project would not result in any impacts to paleontological resources.

4.5.3 Conclusion

There are no known historic or paleontological resources on or in the vicinity of the project area. The project would result in a less than significant impact on subsurface archaeological resources with implementation of the above-listed mitigation measures. **(Less Than Significant Impact with Mitigation)**

4.6 GEOLOGY AND SOILS

The following section is based on available information.

4.6.1 Setting

4.6.1.1 *Applicable Plans, Policies and Regulations*

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act regulates development in California near known active faults due to hazards associated with surface fault ruptures. The Earthquake Fault Zones indicate areas with potential surface fault-rupture hazards. Areas within the Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

The project alignment is not located within an Alquist-Priolo Earthquake Fault Zone. There are no active major faults within the project area; therefore, the project area would not be subject to the regulations of the act.

City of East Palo Alto General Plan

The City of East Palo Alto's General Plan consists of policies which have a goal to reduce the risk to the community from hazards associated with geologic conditions and seismic activity. Safety Policy 1.1 requires developers and agencies to reduce the risk of impacts from geologic and seismic hazards by applying proper development, engineering, and building construction requirements.

City of Menlo Park General Plan

The City of Menlo Park's General Plan includes geologic and seismic safety policies which include the following policies:

- **Policy S1.2**: Location of Public Improvements. Avoid locating public improvements and utilities in areas with identified flood, geologic and/or soil hazards to avoid any extraordinary maintenance and operating expenses. When the location of public improvements and utilities in such areas cannot be avoided, assure that effective mitigation measures will be implemented.

- **Policy S1.13**: Geotechnical Studies. Continue to require site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability as shown on the State and/or local geologic hazard maps or identified through other means.

- **Policy S1.14**: Potential Land Instability. Prohibit development in areas of potential land instability identified on State and/or local geologic hazard maps, or identified through other

means, unless a geologic investigation demonstrates hazards can be mitigated to an acceptable level as defined by the State of California.

4.6.1.2 *Geologic and Seismic Conditions*

This section describes geology and seismic conditions within the San Francisco Bay Area and soil conditions in the immediate project area which includes areas within and adjacent to the proposed project site.

Regional Geology

The project area is located within California's Coast Ranges Geomorphic Province, a geologically young and seismically active region. The Bay Area experienced uplift and faulting in several episodes during late Tertiary time (about 25 to 2 million years ago). This produced a series of northwest-trending valleys and mountain ranges, including the Berkeley Hills, the San Francisco Peninsula, and the intervening San Francisco Bay. Uplifted areas were eroded and Pleistocene and recent marine sediments were deposited in the San Francisco Bay. Stream and marshland sediments were deposited in low-lying areas adjacent to the Bay. The lowland deposits, which underlie most of the project area, consist mostly of the deposits of Holocene-age Bay Mud (less than 11,000 years old) and artificial fill. The Holocene-age deposits consist of a mix of clay, silt, sand, and gravel.

Seismicity

The active or potentially active faults of most significance to the project area are the Monte Vista-Shannon, San Andreas, Hayward, and Calaveras Faults. The Monte Vista-Shannon Fault is approximately six miles southwest of the project area. The San Andreas Fault is located approximately eight miles west of the project area. The Hayward Fault lies on the west side of the East Bay hills and is approximately 11 miles east of the project area. The Calaveras Fault is located 16 miles southeast of the project area. It is predicted that these faults could produce an earthquake with a maximum magnitude of 6.7 to 7.9. Earthquakes on these or other active faults (including unmapped faults) could cause strong ground shaking in the project area. Earthquake intensities vary throughout the Bay Area depending upon the magnitude of the earthquake, the distance of the site from the causative fault, the type of materials underlying the site, and other factors.

Surface Rupture

Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. The location of surface rupture is generally assumed to be along an active major fault trace. According to the California Geologic Survey, the project site is not located within a State-designated Alquist-Priolo Earthquake Fault Zone. Areas within the Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault. There are no active major faults within or adjacent to the project site; therefore, the potential for a surface rupture in the project area is low.

Liquefaction and Lateral Spreading

Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. In the process, the soil undergoes temporary loss of strength, which commonly causes ground displacement or ground failure to occur. Since saturated soils are a necessary condition for liquefaction, soil layers in areas where the groundwater table is near the surface have higher liquefaction potential than those in which the water table is located at greater depths. The ABAG's Liquefaction Hazard Maps indicate that the project area has a moderate to high potential for liquefaction especially in the areas of unconsolidated alluvial materials such as the areas comprised of artificial fill and floodplain deposits.

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open area, such as a steep bank of a stream channel. Portions of the project site, specifically near open channels, are highly susceptible to liquefaction hazards, indicating that lateral movement to an open face is possible.

Expansive and Compressible Soils

Expansion and contraction of volume can occur when expansive soils undergo alternating cycles of wetting (swelling) and drying (shrinking). During these cycles, the volume of the soil changes markedly. The soils in the project area are predominately clays and silty clays with high shrink-swell potential. The basin deposits and flood plain deposits are expected to be of clayey nature, and therefore anticipated to be moderately to highly expansive. Compressible soils include the site's younger (soft) Bay Mud deposits and artificial fill when subjected to increased loads such as those imposed by fill or structures.

Landslides

Hillside areas with steep slopes are typically subject to landslides. The project area is relatively flat. The project area would, therefore, not be exposed to landslide or erosion related hazards.

Settlement and Differential Settlement

Differential settlement or subsidence could occur if buildings or other improvements were built on low-strength foundation materials (including imported fill) or if improvements straddle the boundary between different types of subsurface materials (e.g., a boundary between native material and fill). Areas of the site are located in former tidal flats that contain loose or uncontrolled (non-engineered) fill that may be susceptible to differential settlement and settlement due to low strength native soils and potential unconsolidated fill.

4.6.2 Environmental Checklist and Discussion of Impacts

GEOLOGY AND SOILS					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
a) Rupture of a known earthquake fault, as described 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.)	☐	☐	☐	☒	1,2,18
b) Strong seismic ground shaking?	☐	☐	☒	☐	1,2,18
c) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	1,2,19
d) Landslides?	☐	☐	☐	☒	1,2
2) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	1
3) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐	1,2
4) Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2013), creating substantial risks to life or property?	☐	☐	☒	☐	1,2
5) 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?	☐	☐	☐	☒	1

4.6.2.1 *Geology and Soils Impacts*

Seismic Impacts

The proposed project would construct one (Option 1) or two (Option 2) new pedestrian/bicycle bridges, a raised boardwalk and a paved trail which would be a part of the proposed trail alignment. As stated in Section 4.6.1.2, the project site is not located within an Alquist-Priolo Earthquake Fault Zone. Thus, the likelihood of damage to the bridge and boardwalk structures and paved trail resulting from fault rupture within the project alignment is considered remote and, therefore, would not result in a significant impact. The project will not exacerbate any hazardous seismic conditions. In the event of a major earthquake on one of the region's active faults, strong ground shaking at the project site will likely occur, but no new structures or facilities designed for human occupancy are included in the project. Further, the bridge and boardwalk structures will be designed in compliance with the latest seismic safety standards and codes. Therefore, there would be no substantial risk of loss of life or property expected from seismic ground shaking at the site, however, damage to bridge and boardwalk foundations could result from strong seismic ground shaking.

Landslide Impacts

The project site is relatively flat and is not located in a landslide hazard zone. Therefore, no impacts associated with landslides will occur if the project is constructed.

Soil Impacts

As described in Section 4.6.1.2, the soils present along the proposed trail alignment (i.e., bay muds, artificial fill, and alluvial deposits) are highly susceptible to liquefaction, differential settlement, and lateral spreading during a major earthquake. In addition, the soils have properties that can result in expansion and compression. If not properly addressed, these conditions could result in substantial damage to foundations that could potentially render the trail unusable. This potential, however, will be avoided because, per current codes and standards, the entire project will automatically be designed to account for these conditions. Specifically, site-specific soils testing will be undertaken and appropriate design features for the structures supports will be developed and implemented, which is standard procedure per the latest adopted building and seismic safety codes. The geotechnical report will also include recommendations for grading and site preparation, as appropriate. The project will not exacerbate the existing hazardous soil conditions.

Septic Systems

The project is the construction of a new trail. No septic systems would be developed under the project; therefore, no impacts related to septic systems would occur.

4.6.3 Conclusion

As mandated by building and seismic safety codes, the project would be designed to account for seismic and soils conditions at the site and would not exacerbate these conditions. Therefore, the

project would not result in significant adverse geology, soils, or seismicity impacts to life or property. **(Less Than Significant Impact)**

4.7 GREENHOUSE GAS EMISSIONS

4.7.1 Setting

4.7.1.1 *Applicable Plans, Policies and Regulations*

The United States historically had a voluntary approach to reducing greenhouse gas (GHG) emissions. However, on April 2, 2007, the U.S. Supreme Court ruled that the EPA has the authority to regulate carbon dioxide (CO_2) emissions under the Federal Clean Air Act (CAA). There are currently no federal regulations that apply to GHG emissions from construction of a project.

The California Air Resources Board (CARB) is the lead agency for implementing climate change regulations in California.

United States Environmental Protection Agency

In October 2009, EPA issued a Final Rule for mandatory reporting of GHG emissions. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufactures of heavy-duty and off-road vehicles and vehicle engines, and requires annual reporting of emissions. The Final Rule went into effect on December 29, 2009. This rule does not regulate the emission of GHGs; it only requires the monitoring and reporting of greenhouse gas emissions for those sources above certain thresholds. The EPA adopted a Final Endangerment Finding for the six defined GHGs on December 7, 2009. The Endangerment Finding is required before the EPA can regulate GHG emissions under Section 202(a)(1) of the CAA.

California Assembly Bill 32 and Executive Order S-3-05

Assembly Bill 32 (AB 32), also known as the Global Warming Solutions Act, was passed in 2006 and established a goal to reduce GHG emissions to 1990 levels by 2020. Prior to the adoption of AB 32, the Governor also signed Executive Order S-3-05 into law, which set a long term objective to reduce GHG emissions to 90 percent below 1990 levels by 2050. The California Environmental Protection Agency (CalEPA) is the state agency in charge of coordinating the GHG emissions reduction effort and establishing targets along the way.

In December 2008, CARB approved the *Climate Change Scoping Plan*, which proposes a comprehensive set of actions designed to reduce California's dependence on oil, diversify energy sources, save energy, and enhance public health, among other goals. Per AB 32, the Scoping Plan must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 greenhouse gas reduction goal. The First Update to the Scoping Plan was approved on May 22, 2014 and builds upon the Scoping Plan with new strategies and recommendations. The First Update defines CARB's priorities over the next five years and lays the groundwork to reach long-term goals set forth in Executive Order S-3-05.[8]

[8] California Environmental Protection Agency. Air Resources Board. *First Update to the AB 32 Scoping Plan*. Available at: <http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>

California Senate Bill 375

Senate Bill 375 (SB 375), known as the Sustainability Communities Strategy and Climate Protection Act, was signed into law in September 2008. It builds on AB 32 by requiring CARB to develop regional GHG reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035 when compared to emissions in 2005. The per capita reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.[9] The four major requirements of SB 375 are:

1. Metropolitan Planning Organizations (MPOs) must meet GHG emission reduction targets for automobiles and light trucks through land use and transportation strategies.
2. MPOs must create a Sustainable Communities Strategy (SCS), to provide an integrated land use/transportation plan for meeting regional targets, consistent with the Regional Transportation Plan (RTP).
3. Regional housing elements and transportation plans must be synchronized on eight-year schedules, with Regional Housing Needs Assessment allocation numbers conforming to the SCS.
4. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) has partnered with ABAG, BAAQMD, and BCDC to prepare the region's SCS as part of the RTP process.[10] The SCS is referred to as *Plan Bay Area*. MTC and ABAG adopted *Plan Bay Area* in July 2013.

BAAQMD CEQA Guidelines

BAAQMD identifies thresholds of significance for operational GHG emissions from land-use development projects in its CEQA Air Quality Guidelines. These guidelines include recommended significance thresholds, assessment methodologies, and mitigation strategies for GHG emissions. Under the BAAQMD CEQA Guidelines, if a project would result in operational-related greenhouse gas emissions of 1,100 metric tons (MT) (also referred to as the "bright line" threshold), or 4.6 metric tons per service population[11] of carbon dioxide equivalents (CO_2e) per year or more, it would make a cumulatively considerable contribution to greenhouse gas emissions and result in a cumulatively significant impact to global climate change.

The bright-line numeric threshold of 1,100 MT CO_2e/year is a numeric emissions level below which a project's contribution to global climate change would be less than cumulatively considerable. For projects that are above this bright-line cutoff level, emissions from these projects would still be less

[9] The emission reduction targets are for those associated with land use and transportation strategies, only. Emission reductions due to the California Low Carbon Fuel Standards or Pavley emission control standards are not included in the targets.
[10] ABAG, BAAQMD, BCDC, and MTC. *One Bay Area Frequently Asked Questions*. Available at: <HTTP://ONEBAYAREA.ORG/ABOUT/FAQ.HTML#.UQCEKR2_DAK> Accessed June 4, 2013.
[11] Service population is defined as the sum of the number of residents and the number of employees at the development.

than cumulatively significant if the project as a whole would result in annual emissions of 4.6 MT CO_{2e} per service population or less.

City of East Palo Alto Climate Action Plan

The City of East Palo Alto Climate Action Plan provides guidance for community efforts to reduce greenhouse gas emissions. The Climate Action Plan also includes measures to lower emissions from criteria pollutants and TACs for future development projects. The Climate Action Plan includes 23 actions to address climate change that mostly focus on emission reductions and energy and water conservation goals.

City of Menlo Park Climate Change Action Plan

The goal of the City of Menlo Park's Climate Change Action Plan is to demonstrate where Menlo Park stands regarding current climate protection strategies needed to achieve the state's GHG emissions reductions goals (which requires the state to reduce its greenhouse gas emissions to 1990 levels by 2020). The plan outlines a mix of existing, planned, and proposed strategies that highlight current successes and establishes continuity between existing strategies and the proposed near-term strategies.

4.7.1.2 *Existing Conditions*

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect.

Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. (The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures.) Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO_2), primarily a byproduct of fuel combustion;
- Nitrous oxide (N_2O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;

- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants, and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

The CARB estimated that in 2013 California produced about 459 million metric tons (MMT) of CO_{2e}. The CARB found transportation to be the source of 37.6 percent of the state's total GHG emissions, followed by industrial sources (22.7 percent) and in- and out-of-state electricity generation (19.7 percent). Commercial and residential fuel use (primarily for heating) accounted for 12 percent and agriculture and forestry uses accounted for 8.0 percent of the state's total GHG emissions.[12]

In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the largest source of GHG emissions, accounting for approximately 41 percent of the Bay Area's 102.6 MMT CO_{2e} emitted in 2007; the industrial and commercial sectors accounted for approximately 34 percent of the Bay Area's GHG emissions. Electricity generation accounted for approximately 15 percent of the Bay Area's GHG emissions, followed by residential fuel usage at 7.0 percent, off-road equipment at 3.0 percent, and agriculture at 1.0 percent. Based on the City of East Palo Alto's Climate Action Plan, the City emitted approximately 140,500 metric tons of CO_{2e} in 2005. Over 60 percent were related to transportation.[13] The City of Menlo Park emitted approximately 491,000 metric tons of CO_{2e} in 2005, with 46 percent of emissions associated with transportation emissions (based on the City's Climate Change Action Plan).

4.7.2 Environmental Checklist and Discussion of Impacts

GREENHOUSE GAS EMISSIONS					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	1,13
2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒	1,12,13

[12] California Environmental Protection Agency, Air Resources Board. *California Greenhouse Gas Inventory for 2000-2013 - by Sector and Activity*. Last Updated April 2015.
[13] BAAQMD. *Source Inventory of Bay Area Greenhouse Gas Emissions*. December 2008.

4.7.2.1 *Greenhouse Gas Emissions Impacts*

Short-Term GHG Emissions

The project is estimated to require up to 18 weeks for construction. The GHG emissions would primarily be generated from equipment and vehicles used for grading and construction of the trail and emissions from combustion of fossil fuels for construction vehicle trips to and from the project site. Due to the short construction period, GHG emissions will be minimal. Using the BAAQMD-recommended California Emissions Estimator Model (CalEEMod) version 2013.2.2, the predicted GHG emissions from construction of the project is 110 metric tons of CO_2e.

The project area is located in an urbanized location near sources of construction supplies and equipment, which would help to minimize greenhouse gas emissions generated from transport of construction materials and waste. There is no reliable method to estimate construction-related emissions associated with the manufacturing of project materials.

Neither the MROSD, City of East Palo Alto, City of Menlo Park, nor BAAQMD have quantified significance thresholds for construction activities. For the purposes of this Initial Study, however, estimated construction emissions were compared to BAAQMD's operational-related GHG emissions significance threshold to assess the magnitude and significance of the construction emissions. The 110 metric tons of CO_2e emissions expected during construction of the project would be well below the lowest operational-related threshold adopted by BAAQMD (1,100 MT CO_2e). For these reasons, construction of the project would not contribute substantially to local or regional greenhouse gas emissions. Furthermore, the project includes mitigation (MM AIR-1) requiring implementation of BAAQMD Best Management Practices. Implementation of these construction practices would reduce greenhouse gas emissions associated with construction by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment.

Long-Term GHG Emissions

The proposed project consists of construction of a trail to complete a short missing link in the San Francisco Bay Trail and long-term operations and maintenance of the trail. Once constructed, the trail will be used by pedestrians and bicyclists and there would be no associated emissions of GHGs. GHG emissions associated with maintenance and patrolling of the trail would be minimal.

To put the proposed trail in context, the BAAQMD *CEQA Air Quality Guidelines* (2011) contain a screening threshold of a 600-acre City Park for operation-related impacts for GHGs. The screening criteria provide lead agencies with a conservative indication of whether a project could result in significant GHG impacts by exceeding the emissions thresholds for GHGs (bright-line numeric threshold of 1,100 MT CO_{2e}/year and the annual emissions of 4.6 MT CO_{2e} per service population). Given that the proposed trail alignment would be less than two acres in size, the proposed project's GHG emissions would be well below BAAQMD thresholds.

For these reasons, the trail, once constructed, would not generate significant ongoing operational GHG emissions. Further, as described below, the project itself is designed to facilitate non-

motorized travel by completing a missing gap in the San Francisco Bay Trail that would result in a reduction in GHG emissions.

Consistency with Adopted Plans to Reduce GHG Emissions

In May 2011, BAAQMD adopted its updated CEQA Guidelines that contain methodology and thresholds of significance for evaluating greenhouse gas (GHG) emissions from proposed projects. The BAAQMD thresholds were developed specifically for the Bay Area after considering the latest Bay Area GHG inventory and the effects of AB 32 scoping plan measures that would reduce regional emissions. BAAQMD intends to achieve GHG reductions from new land use developments to close the gap between projected regional emissions with AB 32 scoping plan measures and the AB 32 targets.

Because the proposed project would not create new regional vehicle emissions or other long-term GHG emissions, it would not conflict with any plan or policy intended to reduce long-term GHG emissions, including AB 32 or local goals. In addition, the proposed project is consistent with the East Palo Alto Climate Action Plan goals and measures to improve walking and bicycling facilities and non-vehicular methods of travel. The Ravenswood/4 Corners TOD Specific Plan also includes similar policies to enhance pedestrian and bicycle circulation, and increase non-vehicular methods of travel.

4.7.3 Conclusion

The construction phase of the proposed project would result in less than significant greenhouse gas emission impacts. The long-term operational phase of the project would reduce GHG emissions and be consistent with adopted plans to reduce GHG emissions because it will facilitate pedestrian and bicycle use. **(Less Than Significant Impact)**

4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8.1 Setting

4.8.1.1 *Applicable Plans, Policies and Regulations*

U.S. Environmental Protection Agency

The U.S. EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. The legislation includes the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (commonly referred to as "Superfund"), the Superfund Amendments and Reauthorization Acts of 1986, and the Resource Conservation and Recovery Act of 1986. The EPA provides oversight and supervision for site investigations and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

California Environmental Protection Agency

Cal/EPA serves as the umbrella agency for the Department of Toxic Substances Control (DTSC), the Office of Environmental Health Hazard Assessment (OEHHA), and the SWRCB and its associated regional Water Boards, all of which have roles in regulating hazardous materials as described below.

Department of Toxic Substance Control

The DTSC regulates remediation of sites where discharges to land could potentially present a public health risk. California legislation, for which the DTSC has primary enforcement authority, includes the Hazardous Waste Control Act and the Hazardous Substance Account Act. The DTSC generally acts as the lead agency for soil and groundwater cleanup projects, and establishes cleanup and action levels for subsurface contamination that are equal to, or more restrictive than, federal levels.

Office of Environmental Health Hazard Assessment

The mission of the OEHHA is to protect and enhance public health and the environment by objective scientific evaluation of risks posed by hazardous substances.

State Water Resources Control Board

The SWRCB, through its nine regional boards, regulates discharge of potentially hazardous materials to waterways and aquifers and administers basin plans for groundwater resources in various regions of the State. The San Francisco Bay Regional Water Quality Control Board (RWQCB) is the regional board that has jurisdiction over the project area. The SWRCB provides oversight for sites at which the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions.

Regional Water Quality Control Board

San Francisco Bay RWQCB regulates discharges and releases to surface and groundwater in the project area. The RWQCB generally oversees cases involving groundwater contamination. Within the San Francisco Bay RWQCB, the County of San Mateo Health Services Agency (CSMHSA) handles most leaking underground storage tank cases, so the RWQCB may oversee cases involving other groundwater contaminants; i.e., Spills, Leaks, Incidents, and Clean-up cases. In the case of spills at a project site, the responsible party would notify the CSMHSA and then a lead regulator (CSMHSA, RWQCB or DTSC) would be determined.

County of San Mateo Health Services Agency

The CSMHSA, which includes the San Mateo County Environmental Health Division, serves as the County Local Oversight Program within the County of San Mateo for hazardous materials and soil and groundwater contamination. This agency oversees several programs related to hazardous materials and releases. In general, leaking underground storage tank cases affecting groundwater within the project area are handled by the CSMHSA. Other groundwater contamination cases may also be handled by the CSMHSA, but can also be deferred to the SWRCB or DTSC, depending on the responsible party. The Hazardous Materials Division of the CSMHSA oversees hazardous materials permitting, hazardous materials oversight, and hazardous materials facility closures.

City of East Palo Alto Emergency Operation Plan

The City of East Palo Alto responds to emergencies following the guidelines in the City's 2011 Emergency Operation Plan. The Plan identifies resources for emergency responses and establishes coordinated action plans for specific emergency situations and disasters such as hazardous materials incidents and specific emergency evacuation routes. These routes include University Avenue and Bay Road.

City of Menlo Park Emergency Operations Plan

The City of Menlo Park responds to emergencies following the guidelines in the City's 2011 Emergency Operation Plan. The Plan identifies resources for emergency responses and establishes coordinated action plans for specific emergency situations and disasters such as hazardous materials incidents.

Cities of East Palo Alto and Menlo Park: General Plans

The City of East Palo Alto General Plan has a goal to protect the community from hazards associated with aircraft overflights. The City of Menlo Park's General Plan consists of policies that require development to comply with public safety regulations. Policy LU-8.1 prohibits land uses that encourage a very high concentration of people or negatively affect air navigation as described in the Airport Land Use Control Plan (ALUCP), or are in excess of maximum heights recommended in the ALUCP, from the Traffic Pattern Zone of the Plan Area.

Hazardous Materials Sites: Pursuant to Government Code Section 65962.5

Section 65962.5 of the Government Code requires Cal EPA to develop and update (at least annually) a list of hazardous waste and substances sites. This list is used by the State, local agencies, and developers to comply with CEQA requirements. The list includes hazardous substance release sites identified by the DTSC and the SWRCB and solid waste disposal sites identified by CalRecycle.

Based on a search of the state regulatory databases (e.g., Geotracker database managed by DTSC, Solid Waste Information System Facilities managed by the California Department of Resources Recycling and Recovery (CalRecycle), and EnviroStor managed by the DTSC), the project site is not listed as a hazardous waste or substances site.

4.8.1.2 *Existing Hazards and Hazardous Materials*

Based upon a number of existing documents and hazardous materials databases, as well as review of aerial photos, the following is a summary of hazards and hazardous materials conditions along and near the proposed trail alignment:

- According to the Ravenswood/4 Corners TOD Specific Plan EIR, there are no listed hazardous materials sites within the proposed project site boundaries.

- There were several contaminated sites within the surrounding area disclosed in the Ravenswood/4 Corners TOD Specific Plan EIR, which were being either monitored or actively cleaned up under the guidance of regulatory agencies (i.e., RWQCB and DTSC). The majority of these sites included underground storage tanks and other automotive uses which have leaked petroleum products. Other contaminated sites included industrial uses such as chemical and pharmaceutical company operations, sites with imported fill soil contaminated with DDE, PCBs and fluoride, and railroad areas containing arsenic-impacted soils. However, given the distance of the proposed trail alignment from these properties, and taking into account the remedial action completed, these sites would not adversely affect the trail or trail users.

- Based on the GeoTracker database managed by the SWRCB and the EnviroStor database managed by the DTSC, the only hazardous materials site listed within one-quarter mile of the trail alignment is a former business (approximately 200 feet north of the project area) which is immediately to the north of the railroad tracks and south of the former salt pond. The San Francisco Bay RWQCB issued an order in 2001, which required the property owner (SFPUC) to implement remedial actions at the site to address contamination resulting from the operation of a skeet shooting range on the property from 1939 to 1994. Remedial activities were completed in 2010 for the final phase of cleanup [of lead and polynuclear aromatic hydrocarbons (PAHS)] at the site. Semi-annual groundwater monitoring was completed and the cleanup status has been considered "Completed - Case Closed" since November 2011. Given the distance between the proposed trail and this site, and since the site has been remediated, the former skeet shooting site is not considered to be a hazard to future Bay Trail users or construction workers in the project area.

- Aerial photos of the proposed trail alignment depict what is likely to be undocumented fill in the area easterly of Fordham Street. Such fills, which likely date back many years before records documenting their composition were kept, have frequently been found to include various constituents containing one or more hazardous substances. Testing of the fill at this location has not been undertaken so it is unknown as to whether hazardous substances are present.

- The project site is not listed by CalRecycle as a solid waste disposal site. There are no solid waste disposal sites in the vicinity of the project site. The closest listed solid waste disposal site is located on 2100 Bay Road, East Palo Alto (approximately 0.6 miles southeast of the site). This solid waste facility is, however, no longer in operation and would not affect the project.

- The closest airport to the project site is the Palo Alto Municipal Airport, which is located approximately 1.5 miles south of the project site in Santa Clara County. There are no airport safety zones over the project area identified in the adopted San Mateo County Comprehensive Airport Land Use Plan or the Santa Clara County Comprehensive Land Use Plan for the Palo Alto Airport.

- According to the CAL FIRE, the project area is not located in a wildfire hazard severity zone; therefore, the potential for wildfires in the project area is low.[14]

4.8.2 Environmental Checklist and Discussion of Impacts

HAZARDS AND HAZARDOUS MATERIALS					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐	1,2
2) 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?	☐	☐	☒	☐	1,2

[14] CAL FIRE. *San Mateo County: Fire Hazard Severity Zones in State Responsibility Area*. Adopted November 2007. Available at: <http://frap.fire.ca.gov/webdata/maps/san_mateo/fhszs_map.41.pdf>. Accessed July 10, 2015.

HAZARDS AND HAZARDOUS MATERIALS					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	1
4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒	1,2
Would the project:					
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	1,2,20
6) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	1,2
7) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	1,2,4,5, 21
8) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐	1,2,22

Impacts Related to Hazardous Materials Use and Hazardous Emissions

The project site is not listed on a state regulatory database as a hazardous materials site. The proposed trail would be used for recreational purposes and would not involve the routine use, disposal or transport of hazardous materials. The proposed trail project would not generate

emissions from hazardous materials use or transport. Since the proposed trail does not include the use of hazardous materials, the project would not create a significant hazard to the public or the environment through the release of hazardous materials in the environment.

As described in Section 4.8.1.2, a portion of the proposed trail alignment easterly of Fordham Street contains undocumented fill. The location of the undocumented fill is 0.40 miles from the nearest school (Costano Elementary School). When testing with such fills occurs, it is not uncommon for the results to indicate that contamination or hazardous substances are present. Testing of this fill easterly of Fordham Street has not yet occurred. Without such testing, if contamination or hazardous substances are present and are encountered during construction, construction workers could be exposed to such conditions.

Impact HAZ-1: Construction of the proposed trail project could expose construction workers to risks from hazardous materials contamination if such conditions are determined to be present in the undocumented fill.

Implementation of the following mitigation measure would reduce hazardous materials impacts to a less than significant level.

MM HAZ-1.1: During the final design phase of the project, the portion(s) of the trail alignment that traverse known or suspected undocumented fill will be tested for the presence of contamination and hazardous materials. The testing of the soil will be performed in accordance with standard procedures and protocols. The analytical results will be compared against applicable hazardous waste criteria. Based on the analytical results, the investigation will provide recommendations regarding management and disposal of affected soils if any are found to be present to ensure the affected soils are handled so as to avoid exposure of workers, the public, and the environment to hazardous materials. All recommendations shall be followed.

Impacts Related to Airport Safety Hazards

None of the designated safety zones associated with the Palo Alto Municipal Airport extend to the project site. Additionally, the project site is not located within the vicinity of a private airstrip. The proposed project, therefore, would not create an aviation-related safety hazards for future trail users and the trail's location would not constitute a safety hazard to aircraft operations.

Impacts on Emergency Response

During construction of the proposed trail, construction trucks and equipment would utilize the SFPUC service road to access the construction area. It is possible that access from Fordham Street to construct the paved segment of the trail in the upland areas could also be used by construction workers. However, Fordham Street is a dead-end roadway, is not a major thoroughfare in and out of East Palo Alto, and is not a designated evacuation route. Construction of the proposed project would not, therefore, interfere with emergency response plans or emergency evacuation plans within the City or the County.

Wildfire Impacts

According to CAL FIRE, the project site is not located within a high wildfire threat area. Implementation of the proposed project would, therefore, not expose people to natural hazards from wildfire risk.

4.8.3 Conclusion

With implementation of the above mitigation measure, the proposed project would not result in a significant impact related to hazardous materials. **(Less Than Significant Impact with Mitigation)**

4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Setting

4.9.1.1 *Applicable Plans, Policies and Regulations*

The Federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality. The CWA governs discharges to the "Waters of the United States," which includes oceans, bays, rivers, streams, lakes, ponds, and wetlands. The Porter-Cologne Act established the SWRCB.

As described below, regulations set forth by the EPA and the SWRCB have been developed to fulfill the requirements of this legislation. EPA's regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into Waters of the United States. These regulations are implemented at the regional level by water quality control boards. For the project area, the water board is the San Francisco Bay RWQCB. Regional Boards are responsible for developing and enforcing water quality objectives and implementation plans, known as Basin Plans. The San Francisco region's *Basin Plan* was last updated in 2010.

Clean Water Act

The CWA was enacted by Congress in 1972 and amended several times since inception. It is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws throughout the nation. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA outlines the federal laws for regulating discharges of pollutants as well as sets minimum water quality standards for all "Waters of the United States." Several mechanisms are employed to control domestic, industrial, and agricultural pollution under the CWA. At the federal level, the CWA is administered by the EPA. At the state and regional level, the CWA is administered and enforced by the SWRCB and the nine RWQCBs. The State of California has developed a number of water quality laws, rules, and regulations, in part to assist in the implementation of the CWA and related federally-mandated water quality requirements. In many cases, the federal requirements set minimum standards and policies and the laws, rules, and regulations adopted by the state and regional boards exceed the federal requirements.

CWA Section 303(d) lists polluted water bodies which require further attention to support future beneficial uses. San Francisco Bay is on the Section 303(d) list as an impaired water body for several pollutants.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is an agency of the United States Department of Homeland Security. FEMA is responsible for the development and implementation of a comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation. FEMA also maintains Flood Insurance Rate Maps (FIRMs) that identify floodways and floodplains for the United States. A FIRM highlights the specific flood hazards, flood risk zones, and floodplains at a local level of detail.

San Francisco Bay Conservation and Development Commission

As noted previously, the San Francisco BCDC was established in 1965 and its mission is dedicated to the protection and enhancement of San Francisco Bay. The *Bay Plan*, completed by the BCDC in 1969, regulates development in and around the Bay, and includes a range of policies on public access, water quality, fill, and project design. In 2011, the BCDC amended the *Bay Plan* to include policies related to the effects of climate change and sea level rise, focusing on the shoreline areas around the Bay that are most vulnerable to this phenomenon. Projects located within BCDC jurisdiction are required to comply with these policies if they require a permit from BCDC.

State Water Quality Control Board
National Pollutant Discharge Elimination System Permit

The Porter-Cologne Water Quality Control Act of 1969 and federal CWA require local municipalities to implement measures to control construction and post-construction pollution entering local storm drainage systems to the maximum extent practicable. To comply with the requirements of these legislative acts, the SWRCB implemented a NPDES permit for San Mateo County. Two programs, the Nonpoint Source Pollution Program and the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) have been implemented under the NPDES permit to control construction and post-construction runoff.

Nonpoint Source Management Plan

In 1988, the SWRCB adopted the Nonpoint Source Management Plan in an effort to control nonpoint source pollution in California. In December 1999, the Plan was updated to comply with the requirements of Section 319 of the CWA and Section 6217 of the Coastal Zone Act Reauthorization Amendment of 1990. The Nonpoint Source Management Plan requires individual permits to control discharge associated with construction activities. The Nonpoint Source Management Plan is administered by the RWQCB under the NPDES General Permit for Construction Activities. Projects must comply with the requirements of the Nonpoint Source Program if:

- the project disturbs one acre or more of soil; or
- the project disturbs less than one acre of soil but is part of a larger development that, in total, disturbs one acre or more of soil.

The NPDES General Permit for Construction Activities requires the project proponent to submit a Notice of Intent (NOI) to the RWQCB and to develop a Storm Water Pollution Prevention Plan (SWPPP) to control discharge associated with construction activities.

San Mateo Countywide Water Pollution Prevention Program (SMCWPPP)

The SMCWPPP was developed by the RWQCB to assist local jurisdictions within San Mateo County in implementing the provisions of the NPDES permit. This program was also designed to fulfill the requirements of Section 304(1) of the Federal CWA, which mandated that the EPA develop NPDES application requirements for stormwater runoff. The Program's Municipal Regional

NPDES stormwater permit replaces the formerly separate countywide municipal stormwater permits with one permit for all 76 Bay Area municipalities to standardize requirements throughout the region. It specifies actions necessary to reduce the discharge of pollutants in stormwater to the maximum extent practicable and effectively prohibits non-stormwater discharges into the municipal storm drainage system to protect local creeks and the Bay.

Applicable projects consist of all new public and private projects that create 10,000 square feet or more of impervious surface collectively over the entire project site and redevelopment projects that add or replace 10,000 square feet or more of impervious surface area on the project site. Additional requirements must be met by large projects that create one acre or more of impervious surfaces. These large projects must control increases in runoff peak flow, volume, and duration (referred to as hydromodification) caused by the project if the increase in stormwater runoff has the potential to cause erosion or other adverse impacts to receiving streams.

SFPUC Interim Water Pipeline Right of Way Use Policy for San Mateo, Santa Clara, and Alameda Counties

As part of its utility system, the SFPUC operates and maintains hundreds of miles of water pipelines and provides public use on their water pipeline property or right-of-way (ROW), consistent with their existing plans and policies. The Interim Water Pipeline Right of Way Policies help inform how and in which instances the ROW can serve the needs of third parties – including public agencies, private parties, nonprofit organizations, and developers seeding to provide recreational and other use opportunities to local communities.

In terms of hydrology and water quality, permitted trails or walkways should be paved with materials that both reduce erosion and stormwater runoff (e.g., permeable pavers). The majority of the proposed project would be striped on the existing SFPUC service road and would not introduce a substantial amount of new paved surfaces. It is therefore, not inconsistent with SFPUC policies related to stormwater quality or quantity.

4.9.1.2 *Existing Hydrology and Water Quality Conditions*

Water Quality

Water quality varies throughout the San Francisco Bay due to variability in discharges of pollutants, tidal stage, and water circulation. Salinity and the concentrations of total suspended sediment (TSS) are two of the most basic water quality parameters that describe basic habitat and water chemistry. Long-term monitoring has shown that South San Francisco Bay experiences large variability in surface salinity. Variations in salinity occur on seasonal and inter-annual[15] time scales, largely in response to freshwater inputs derived from local watersheds, as well as the Delta. Large river flows have a strong effect on TSS in Suisun and San Pablo Bays, but a weaker influence on concentrations in the South Bay, where inputs from the local watersheds affect TSS levels. In general, higher levels

[15] Inter annual refers to a time scale occurring between years, or from one year to the next.

in salinity and TSS occur during the wet season due to intense watershed inputs, but are reduced during the dry season when discharges from the watersheds are reduced.[16]

Groundwater

Historical groundwater levels vary from zero to 10 feet below existing grade in the project area. Groundwater levels can be influenced by tidal changes, precipitation changes, perched zones, changes in drainage patterns, and irrigation. For areas of the site that consist of Bay Mud, the groundwater may be brackish due to the proximity of San Francisco Bay.

Flooding and Projected Sea Level Rise

According to FEMA, the proposed trail alignment is located within the existing 100-year floodplain. This floodplain encompasses much of the surrounding area including substantial portions of the University Villages neighborhood and most of the Ravenswood Open Space Preserve. Flooding in the project area is the result of tidal flooding and an inadequate storm drainage system. In general, the storm drain system in the project area drains toward the San Francisco Bay tidal marshlands.

As noted in Section 4.9.1.1, BCDC's *Bay Plan* was amended in 2011 to include findings and policies on sea-level rise, which is based on a background report that reflects the current state of knowledge regarding the potential impacts of climate change on the region. The background report, *Living with a Rising Bay: Vulnerability and Adaption in San Francisco Bay and on the Shoreline*, identifies potential impacts of climate change on public health and safety. According to this report, global warming is expected to result in a 16-inch (1.3 feet) sea level rise in San Francisco Bay by mid-century (2050) and in a 55-inch (4.6 feet) sea level rise by the end of the century (2100). This would result in approximately 180,000 acres of Bay shoreline vulnerable to flooding by mid-century, and 213,000 acres vulnerable to flooding by the end of the century. Additionally, it is predicted that global climate change would also result in extreme storm events, which in combination with higher sea level, would cause greater flooding within the vulnerable shorelines areas.

For the proposed trail project, the alignment is currently subject to flooding during the 100-year storm. The above-described projected rises in sea level would extend to the trail alignment and surrounding area by mid-century, with further increases in flooding projected to continue through 2100. In practical terms, this means that the frequency and magnitude of the flooding that already occurs during storms are projected to worsen in the coming years due to the effects of climate change and sea level rise.

Seiche, Tsunami, Mudflows and Dam Failures

Large earthquakes can generate seismic sea waves or tsunamis, which can cause damage along the coastline. The project area is located about 12 miles east of the Pacific Ocean shoreline, and is not within the County of San Mateo Tsunami Evacuation Planning area; however, according to maps

[16] U.S.G.S. *Patterns of Water-Quality Variability in San Francisco Bay During the First Six Years of the RMP, 1993-1998. Continuous Monitoring in the San Francisco Bay and Delta.* Available at: <http://sfbay.wr.usgs.gov/sediment/cont_monitoring/background.html>. Last Modified December 2007. Accessed July 13, 2015.

produced by the California Geological Survey, the zone of possible tsunami inundation extends over the portion of the project alignment within the Ravenswood Open Space Preserve.[17]

Seiches are oscillating waves in a lake or partly-enclosed body of water caused by an earthquake or landslide which displaces part of the water body. Most of the lands immediately adjacent to the San Francisco Bay are at a higher risk of seiche. According to the California Emergency Management Agency, inundation from a seismically induced tsunami could cause a seiche within the San Francisco Bay and could inundate the project site within the Ravenswood Open Space Preserve.

The project area is not within the project inundation zones associated with the failure of any large dam in San Mateo County.

A mudflow is a large rapid mass of mud formed by loose earth and water. Hillsides and slopes of unconsolidated material are typically at risk to mudflows if these areas become saturated. Usually, a mudflow occurs as a result of a dual condition of loss of brush cover and the subsequent accumulation of water on the ground preceded by a period of heavy or sustained rain. The project area would not be subject to mudflows as it is not located near any hillsides.

4.9.2 Environmental Checklist and Discussion of Impacts

HYDROLOGY AND WATER QUALITY					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐	1,2
2) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒	1,2

[17] California Emergency Management Agency (CEMA). California Geological Survey. *Tsunami Inundation Map for Emergency Planning, Redwood Point Quadrangle and Palo Alto Quadrangle*. June 2009. Available at: <http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanMateo/Documents/Tsunami_Inundation_RedwoodPointPaloAlto_Quads_SanMateo.pdf >. Accessed July 15, 2015.

HYDROLOGY AND WATER QUALITY					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?	☐	☐	☒	☐	1,2
4) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or off-site?	☐	☐	☒	☐	1,2
5) Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	1,2
6) Otherwise substantially degrade water quality?	☐	☐	☐	☒	1,2
7) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	1,2,23
8) Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☒	☐	1,2,23
9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐	1,2
10) Be subject to inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐	1,2,24

4.9.2.1 *Hydrology and Water Quality Impacts*

Long-Term Impacts to Drainage and Water Quality

The proposed project is estimated to increase impervious surfaces by adding approximately 7,750 square feet of paved trail surfaces plus approximately 300 square feet of impervious supporting pier structures for the raised boardwalk and bridge. Since this total is less than the 10,000 square foot threshold contained in the SMCWPPP, the incorporation of stormwater treatment measures into the project's design is not required. However, if during final design, it is determined that more than

10,000 square feet are affected, the project will comply with all applicable NPDES provisions for trail projects. Stormwater runoff from the paved portion of the trail, which would not be significant due to its limited size, would flow into adjacent vegetated areas.

The proposed trail has been designed to avoid alteration or blockage of existing drainages or waterways. This would be done through the installation of a raised boardwalk trail through the marshland areas. In the upland areas, the new paved trail would be at a similar elevation to the existing ground surface (approximately eight to 13 feet above mean sea level). Stormwater would flow overland and percolate into the ground, which reduces the amount of stormwater entering the San Francisco Bay. Most of the project area would remain pervious and storm drainage facilities would not be constructed.

The construction of a trail on the project site would increase public access that could affect water quality including an increase in trash left by trail users. The trail has been designed to avoid waterways and the District will implement their standard trash removal policies ("pack in, pack out") on-site. Periodic trash removal events would also be implemented. The placement of a trail within the project area could serve to reduce the number and extent of homeless encampments due to the increased presence of a legitimate trail use (and users) on-site.

Short-Term Impacts to Water Quality

Impacts related to water quality could occur during construction activities. For example, the disruption of soils could result in off-site deposition of sediments that could adversely affect water quality in the San Francisco Bay. In addition, hazardous materials such as fuel, oil, paint, and solvents are routinely used during construction, and the accidental spill or release of these substances could adversely affect water quality, which is considered a significant impact. While construction activities would be temporary in nature, the potential impacts to water quality could last beyond the duration of construction, depending on the extent of degradation.

Impact HYD-1: The construction phase of the proposed project could result in sedimentation and/or the accidental release of hazardous substances, which could adversely affect the water quality of the marshland and San Francisco Bay.

Implementation of the following mitigation measures would avoid or minimize water quality impacts during construction to ensure the project is in compliance with regional water quality standards and waste discharge requirements. These measures are consistent with the Ravenswood/4 Corners TOD Specific Plan Policy LU-4.5.

MM HYD-1.1: Prior to the commencement of any ground disturbing activities, the project shall comply with the SWRCB's NPDES General Construction Activities Permit, as follows:

- The project contractor shall develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) to control the discharge of stormwater pollutants including sediments associated with construction activities; and
- The project contractor shall file a Notice of Intent (NOI) with the SWRCB.

MM HYD-1.2: The project shall include Best Management Practices (BMPs) to control the discharge of stormwater pollutants including sediments associated with construction activities. Prior to installation, the contractor shall be required to prepare an Erosion Control Plan to ensure that erosion is minimal on the site and water quality standards of the RWQCB are not exceeded. The Erosion Control Plan shall include BMPs as specified in the *Manual of Standards for Erosion and Sediment Control Measures*[18] for reducing impacts on the storm drainage system from installation activities. The following specific BMPs shall be implemented to prevent stormwater pollution and minimize potential sedimentation during construction and shall be included in the construction contract:

- Utilize on-site sediment control BMPs to retain sediment on the project site;
- Stabilized construction entrances and/or on-site truck tire washing stations shall be utilized at the construction site to reduce visible mud or dirt track-out onto adjacent public roads, to the maximum extent feasible. The use of power sweeping equipment is prohibited;
- Provide temporary cover of disturbed surfaces to help control erosion during installation;
- Provide permanent cover to stabilize the disturbed surfaces after installation has been completed;
- Store, handle, and dispose of construction materials and wastes properly, so as to prevent their contact with stormwater;
- Control and prevent the discharge of all potential pollutants, including solid wastes, paints, concrete, petroleum products, chemicals, washwater or sediments, and non-stormwater discharges to storm drains and watercourses;
- Utilize sediment controls or filtration to remove sediment from dewatering effluent;
- Refueling of construction equipment and maintenance equipment (e.g. chainsaws, string or line trimmers) must be done 65 feet from riparian or wetland areas. Spill-kits and a plan for notification should a spill occur, will be required;Portable toilets should be located in an area away from wetland areas;
- Delineate clearing limits, easements, setbacks, sensitive or critical areas, buffer zones, trees, and drainage courses with field markers; and
- Protect adjacent properties and undisturbed areas from construction impacts using vegetative buffer strips, sediment barriers or filters, dikes, mulching, or other measures as appropriate.

In addition to the above measures, implementation of MM BIO-5.1 – BIO-5.6 (see Section 4.4.2.1) would also reduce or avoid any water quality impacts associated with ground disturbance during construction. The project would, therefore, not violate the RWQCB's water quality standards.

[18] Association of Bay Area Governments. *Manual of Standards for Erosion and Sediment Control Measures.* May 1995.

Impacts to Groundwater

The project is the construction of a trail, which would not require supplies of water over the long-term.

As described in Section 4.9.1.2, historical groundwater levels vary from zero to 10 feet below existing grade in the project area. Based on this information, the construction phase of the project could encounter groundwater at shallow levels. If groundwater is encountered during excavation, temporary dewatering during construction may be necessary. This could locally and temporarily affect shallow groundwater elevations and flow. However, dewatering, if needed, would not continue after construction, so that long-term effects on groundwater would not occur. Dewatering activities, if needed, would be completed in accordance with the City of East Palo Alto or Menlo Park requirements.

Impacts Associated with Flooding & Sea Level Rise

As discussed previously, the proposed trail alignment is within an existing 100-year floodplain, which means that the trail would be flooded during 100-year storms. As was also described previously, the magnitude and frequency of flooding will increase by mid-century as the projected effects of sea level rise reach the trail and surrounding area. Such effects would continue to worsen in subsequent years as sea level rise continues through the end of the century. It is important to reiterate that flooding would not only affect the trail but much of the surrounding area as well.

It should be noted that there would be no risk to the public if the project is constructed as currently designed because no one would be using (or desire to use) the trail during such events since the entire area would be inundated. By nature of being located along the shoreline of the Bay or along creek corridors, it is not uncommon for portions of certain trails in the Bay Area and elsewhere to be flooded during and after some storm events. In such instances, the affected portion(s) of the trails are temporarily closed until the flooding subsides. The project will not exacerbate flooding or sea level rise.

BCDC is encouraging jurisdictions around the shoreline of San Francisco Bay to plan for the effects of sea level rise by developing adaptive management plans. In the long-term, planners and decision-makers will need to consider how best to protect the entire project area due to the increase in sea level. The plan could include the reconstruction of infrastructure and private development at elevations above the projected sea level, removal of development from the zone of inundation, construction of levees, or some combination thereof.

The trail would not impede or redirect flood flows as the new paved portion will be constructed at-grade and will not entail structures (e.g., buildings) that might block flows. The boardwalk section would not block flood flows as it would be constructed three to eight feet above the marsh.

Impacts due to Tsunami Inundation

As noted previously, the project area is within a tsunami inundation area, which is common to the entire shoreline of the San Francisco Bay. The tsunami hazard maps do not represent inundation from a single scenario event. They were created by combining inundation results for a collection of realistic local and distant earthquakes and hypothetical extreme undersea, near-shore landslides, representing the worst-case scenario at any given location. The actual depth or extent of inundation cannot be predicted; thus, land use planning is the best protection measure against significant risk from a tsunami. The project will not exacerbate potential tsunami conditions.

The proposed project is a low intensity recreational use with minimal boardwalk and bridge structures development. The project's features and its location within the southern portion of the Bay keep the risk to the public low. The project would maintain the existing protection buffer of open space between the Bay and the urban development of East Palo Alto.

According to findings reported in the Redwood City Seismic Advisory Board report, the largest tsunami recorded at the Golden Gate Bridge was three feet high. Since the project site is located in the southern margin of the San Francisco Bay, more than 20 miles from the Golden Gate Bridge, the tsunami waves would attenuate to less than three feet high. For this reason, the potential for tsunamis affecting the future trail users is considered low to remote. The project site would be protected by the bordering marshland located in the Ravenswood Open Space Preserve.[19] The proposed project would, therefore, not be significantly impacted by tsunami inundation.

Impacts due to Dam Inundation and Mudflows

As mentioned previously, the project area is not within a dam inundation zone and would not be subject to mudflows.

4.9.3 Conclusion

The proposed project, with the implementation of the mitigation measures above, would not result in significant hydrology and water quality impacts. **(Less Than Significant Impact with Mitigation)**

[19] City of East Palo Alto. Ravenswood/4 Corners TOD Specific Plan EIR. July 2012.

4.10 LAND USE

4.10.1 Setting

4.10.1.1 *Applicable Plans, Policies and Regulations*

San Francisco Bay Conservation and Development Commission

State legislation, namely the *McAteer-Petris Act*, was passed in 1965 to establish and govern the San Francisco BCDC. The BCDC is dedicated to the protection and enhancement of San Francisco Bay. The *San Francisco Bay Plan (Bay Plan)*, completed by BCDC in 1969, regulates development in and around the Bay, and includes a range of policies on public access, water quality, fill, and project design. The *Bay Plan* also designates shoreline areas that should be reserved for water-related purposes like ports, industry, public recreation, airports, and wildlife refuges. For additional details on BCDC jurisdiction and its applicability to the proposed trail, please see Section 4.4.1.1.

The *Shoreline Spaces, Public Access Design Guidelines* provide direction on how to design projects consistent with BCDC's laws and policies regarding public access. All projects located within BCDC jurisdiction should meet the BCDC's Seven Public Access Objectives.

San Francisco Bay Trail Plan

The San Francisco Bay Trail Plan proposes development of a regional hiking and bicycling trail around the perimeter of the San Francisco Bay and San Pablo Bay. The Plan was prepared by ABAG pursuant to Senate Bill 100. The Bay Trail Plan proposes an alignment for what is intended to become a 500-mile recreational ring round the Bay.

The project area includes the Ravenswood Bay Trail gap (Segment 2092) as a short missing link in the Bay Trail on the San Francisco Peninsula. This missing link is located between the existing on-street bicycle lane on University Avenue and the existing unpaved multipurpose trail in the Ravenswood Open Space Preserve.

City of East Palo Alto General Plan and Zoning Ordinance

The City of East Palo Alto General Plan is an adopted statement of goals and policies that provides guidance on how land use designations should be developed to contribute to the overall character of East Palo Alto. All development in the city must conform to the land use designations outlined in the General Plan. Under State law, the City's General Plan is the primary planning document and all other City plans and policies must be consistent with the adopted General Plan. The Zoning Ordinance of the East Palo Alto Municipal Code regulates land use in the city. The Zoning Ordinance is the mechanism used to implement the goals, objectives, and policies of the General Plan and to regulate all land use within the city.

Various policies in the City of East Palo Alto's General Plan have been adopted for the purpose of avoiding or mitigating land use impacts resulting from planned development within the City. The proposed trail that is the subject of this Initial Study would be subject to the land use policies listed in

East Palo Alto's General Plan, including the following: *Land Use Policy 2.2:* Promote high quality in the design of all public and private development projects; *Land Use Policy 3.2:* Ensure that new development is compatible with the physical characteristics of its site, surrounding land uses, and available public infrastructure; and *Conservation and Open Space Element Policy 8.2:* Provide physical improvements, such as parking lots, sidewalks, trails, access points, or other facilities that promote greater use of recreation and open space lands and the Bay.

Ravenswood/4 Corners TOD Specific Plan

The Ravenswood/4 Corners TOD Specific Plan includes phased implementation of a future two-lane road and pedestrian/bicycle trail from University Avenue to connect eastward to the Bay Trail. The first phase includes the trail only and the second phase includes the trail and road. All future trail improvements addressed by this Initial Study would be subject to the land use goals and policies listed in this Specific Plan, including the following: *LU-4.5:* Require landscaping and ground cover as a component of all projects to prevent soil erosion; *UTIL-5.1*: Ensure that new development does not adversely affect the Ravenswood Open Space Preserve; *CUL-1.1:* Ensure that City, State, and Federal historic preservation laws, regulation and codes are implemented, including State laws related to archaeological resources, to ensure the adequate projection of historic and prehistoric resources.

East Palo Alto Bay Access Master Plan

The Bay Access Master Plan (BAMP) is designed to improve the amenities and quality of life of existing and future East Palo Alto residents, employers, and employees working in East Palo Alto. The guiding concept for the BAMP is to create a comprehensive system of pocket parks connected by a network of trails. This includes completing the Ravenswood Bay Trail gap. The BAMP would ensure that all East Palo Alto residents can use pedestrian trails to connect to the Bay and to parks and trails such as Cooley Landing, Palo Alto Baylands Nature Preserve, Coyote Hills, and Ravenswood Open Space Preserve. To the extent possible, improvements shall adhere to BCDC's *Shoreline Spaces, Public Access Design Guidelines* for the San Francisco Bay.

City of Menlo Park General Plan and Zoning Ordinance

The General Plan for the City of Menlo Park guides the physical development and character of the City. The General Plan sets forth City policies regarding the types and locations for future land uses and activities and is used by the City Council and Planning Commission in considering planning and land use decisions.

The Zoning Ordinance enforces the land uses designated in the General Plan. The Zoning Ordinance defines the zoning districts that the City is divided into and identifies the land uses permitted and conditionally permitted.

4.10.1.2 *Existing Land Use Conditions*

The project study area is located generally east of University Avenue, south of the San Mateo County Transit District's Dumbarton railroad line, north of the University Village residential neighborhood

in the City of East Palo Alto, and west of the existing San Francisco Bay Trail within the Ravenswood Open Space Preserve in the City of Menlo Park. Existing land uses in the project area are shown in Figure 2.2-2.

4.10.1.3 *General Plan and Zoning Designations*

The portion of the project alignment from University Avenue to the SFPUC right-of-way is within the public right-of-way and unzoned. Outside of the property owned by the SFPUC, the General Plan Designation is *Resource Management* and the Zoning District is *Ravenswood Open Space* within the City of East Palo Alto. The Caltrans wetland immediately to the east of University Avenue, as well as the eastern end of the project area are, within the City of Menlo Park and have a General Plan Designation of *Non-Urban* with a *Flood Plain* Zoning District.

4.10.2 Environmental Checklist and Discussion of Impacts

LAND USE					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Physically divide an established community?	☐	☐	☐	☒	1
2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒	1,3-6, 11,16,25, 33
3) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒	1

4.10.2.1 *Land Use Impacts*

Established Communities

The proposed trail would complete a key linkage to the regional trail system for the existing Bay Trail and would provide the same function as the surrounding trail. The project would improve pedestrian and bicycle circulation and access throughout and beyond the project area. The proposed trail alignment would provide residents of the adjacent University Village pedestrian and bicycle access to the Ravenswood Open Space Preserve, Cooley Landing and the Bay Trail. Since the proposed trail is an extension of the existing Bay Trail alignment, it is not a new use (such as

commercial and industrial uses) and therefore the proposed trail would be compatible with the surrounding neighborhood. Consistent with the East Palo Alto and Menlo Park General Plans, trail use would be a recreational amenity to the local community and would not be incompatible with the surrounding residential uses. Based on these conditions, the proposed project would not divide existing communities within the project area, and would therefore have no impact on established communities.

Consistency with Applicable Land Use Plans and Regulations

As mentioned previously, a portion of the proposed trail alignment is within BCDC's jurisdictional area and would require a permit from BCDC. The Cities of East Palo Alto and Menlo Park would comply with the necessary requirements including compliance with the federal Coastal Zone Management Act for all project activities within BCDC jurisdiction. The project proposes to increase and improve public access opportunities along the Bay, which is consistent with BCDC's main goals and the project would be designed to meet BCDC's *Shoreline Spaces, Public Access Design Guidelines*. For a discussion of the project's consistency with BCDC policies pertaining to sea level rise, please see Section 4.9.2.1.

The proposed trail is located within the jurisdictions of East Palo Alto and Menlo Park. The proposed project does not propose any General Plan or zoning amendments as part of the project. The City of East Palo Alto's Ravenswood/4 Corners TOD Specific Plan includes a future two-lane road and pedestrian/bicycle trail from University Avenue to connect eastward to the Bay Trail. The proposed trail is a component of the Ravenswood/4 Corners TOD Specific Plan and is consistent with the overall design and rezoning for the loop road in the Specific Plan and would not conflict with implementation of the loop road and the associated pedestrian improvements. For these reasons, the proposed project would not conflict with the Specific Plan or relevant General Plans or zoning ordinances.

In addition, future trail construction would be required to conform to the City of East Palo Alto's *Bay Access Master Plan* and BCDC's *Shoreline Spaces, Public Access Design Guidelines for the San Francisco Bay*, which include guidelines for setbacks, landscaping, and trail design.

The proposed project also includes a transfer of a public trail easement over the SFPUC property from the SFPUC to MROSD. MROSD would then adopt a Preliminary Use and Management Plan for the trail easement. Ultimately, MROSD may transfer the public trail easement to another public agency. Such a transfer by MROSD to another public agency, under the terms of the proposed trail easement, will require prior written consent, which SFPUC may grant or withhold at its reasonable discretion. In determining whether to propose or to approve such a transfer, SFPUC and MROSD may consider the proposed assignee's demonstrated ability and capacity, in terms of budget, personnel and experience, to perform the obligations under the agreement (including maintenance, repair, patrolling and enforcement obligations). The trail easements would not conflict with any applicable land use plans.

Habitat Conservation Plans

There are currently no locally or State-established habitat or natural community conservation plans applicable to the project area or the proposed project. As a result, there would be no impact with regard to conflicts with the implementation of such plans.

4.10.3 Conclusion

The proposed project would be consistent with applicable land use plans and policies, would not divide an established community, and would not result in adverse land use impacts.
(No Impact)

4.11 MINERAL RESOURCES

4.11.1 Setting

According to the California Department of Conservation, the San Francisco Bay Region is classified into Aggregate and Mineral Resource Zones (MRZ). The project area is mapped as MRZ-1, an area where no significant mineral or aggregate deposits are present.[20] The nearest salt pond is located approximately two miles east of the project area, immediately adjacent and to the west of Bedwell Bayfront Park in Menlo Park and a former salt pond occurs approximately 400 feet north of the site, to the north of the railroad tracks.[21]

The proposed trail would extend from University Avenue and would terminate at the existing Bay Trail and would not impact the salt ponds in the region. The East Palo Alto and Menlo Park General Plans do not identify mineral resources within or adjacent to the project area.

4.11.2 Environmental Checklist and Discussion of Impacts

MINERAL RESOURCES					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒	1,2,4,5
2) 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?	☐	☐	☐	☒	1,2,4,5

4.11.2.1 *Mineral Resources Impacts*

The project would not result in the loss of availability of a known mineral resource, and no mineral excavation sites are present within the project area. The proposed project would, therefore, not result in any adverse impacts to mineral resources.

4.11.3 Conclusion

The project would not result in impacts to known mineral resources. **(No Impact)**

[20] California Department of Conservation. *Generalized Mineral Land Classification Map of the South San Francisco Bay Production – Consumption Region. Open – File Report 96-03. Plate 1 of 29*. 1996. Available at: <http://www.quake.ca.gov/gmaps/WH/smaramaps.htm>. Accessed July 9, 2015.
[21] South Bay Salt Pond Restoration Project. *South Bay Salt Pond Restoration Map*. Available at: <http://www.southbayrestoration.org/maps/Display%20map%20v46.pdf>. Accessed July 9, 2015.

4.12 NOISE

4.12.1 Setting

4.12.1.1 *Applicable Plans, Policies and Regulations*

City of East Palo Alto General Plan

The Noise Element of the City of East Palo Alto's General Plan identifies noise and land use compatibility standards for various land uses. There is no established noise level for trails, but there is one for neighborhood parks. The City of East Palo Alto General Plan Noise/Land Use Compatibility Matrix identifies neighborhood parks with 65 decibel (dB) Community Noise Equivalent Level (CNEL) or less as a "Clearly Compatible" use.

East Palo Alto Municipal Code

In addition to the above General Plan policies, construction of the trail would be subject to East Palo Alto Municipal Code Section 15.04.125, which limits construction activity to 7:00 AM – 6:00 PM weekdays, Saturdays from 9:00 AM – 5:00 PM, with no construction on Sundays or national holidays.

City of Menlo Park General Plan

The City of Menlo Park has standards to protect the health and safety of residents and the community from unreasonable noise from any and all sources in the community and to strive to locate uses compatible to the area to minimize escalation of noise from mobile and stationary sources. Applicable General Plan noise policies include:

- **N1.4 Noise Sensitive Uses**. Protect existing residential neighborhoods and noise sensitive uses from unacceptable noise levels and vibration impacts. Noise sensitive uses include, but are not limited to, hospitals, schools, religious facilities, convalescent homes and businesses with highly sensitive equipment. Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation and locate noise sensitive uses away from noise sources unless mitigation measures are included in development plans.

- **N1.8 Potential Annoying or Harmful Noise**. Preclude the generation of annoying or harmful noise on stationary noise sources, such as construction and property maintenance activity and mechanical equipment.

City of Menlo Park Municipal Code

In addition to the General Plan, noise regulations are also contained in the City of Menlo Park Municipal Code (Municipal Code). Chapter 8.06 of the Municipal Code contains noise limitations and exclusions for land uses within the City. The Noise Ordinance addresses noise limits that would constitute a noise disturbance, primarily as measured on residential land uses. The following

regulations would be applicable to the project and are also consistent with the requirements of the City of East Palo Alto:

Construction Noise

- Construction activities shall occur between the hours of 8 AM and 6 PM, Monday through Friday.
- All powered equipment shall comply with the limits set forth in Municipal Code, Section 8.06.040(b).
    - Powered equipment used on a temporary, occasional or infrequent basis operated between the hours of 7 AM and 6 PM Monday through Friday shall not generate noise in excess of eighty-five (85) dBA at fifty (50) feet.

4.12.1.2 *Overview of Noise Principles*

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound can be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A dB is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus one dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus one to two dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level, CNEL, is a measure of the cumulative noise exposure in a community, with a five dB penalty added

to evening (7:00 PM – 10:00 PM) and a 10 dB addition to nocturnal (10:00 PM – 7:00 AM) noise levels.

4.12.1.3 *Existing Noise and Vibration Conditions*

According to the Ravenswood/4 Corners TOD Specific Plan Final EIR, noise sources in the project area are primarily from traffic on University Avenue, general aviation flights from the Palo Alto Municipal Airport and distant noise from Highway 84. The project area closest to University Avenue has an estimated CNEL of 70 dBA and the project area near the Ravenswood Open Space Preserve has an estimated CNEL of 59 dBA.

Common sources of ground-borne vibration are construction activities (primarily impact pile-driving), trains, and to a lesser extent truck traffic. There are no heavy or light-rail facilities in the vicinity of the project site. Minimal vibration in the area results from vehicle and truck traffic on University Avenue and the existing SFPUC service roadway. Existing vibration levels were not measured or calculated for this analysis since there are no major sources of operational vibration in the project area.

4.12.2 Environmental Checklist and Discussion of Impacts

NOISE					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Will the project result in:					
1) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	1,2,4,5
2) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	1,2,4,5
3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	1,2,4,5
4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐	1

NOISE					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	1,2,4,5, 20
6) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	1,2

4.12.2.1 *Noise Impacts*

Long-Term Noise Levels

Based on the noise levels from the Ravenswood/4 Corners TOD Specific Plan noise measurements on University Avenue and at the northeast end of the University Village, most of the trail alignment would be considered a "Clearly Compatible" and "Generally Acceptable" use under East Palo Alto and Menlo Park guidelines because the noise levels are less than 65 dBA CNEL. Noise levels greater than 65 dBA CNEL would be limited to areas immediately adjacent to University Avenue. While noise levels above 65 dBA CNEL are discouraged for park uses, in this case the noise levels adjacent to University Avenue would not be considered a significant effect on trail users because of the transitory nature of the exposure (i.e., trail users would be in motion and only in proximity to University Avenue for a short duration).

Operation of the trail itself would not result in a discernible increase in ambient noise levels within the adjacent neighborhood as there would be no ongoing use of motor vehicles and/or noise generating equipment. While the trail would be open until 10 pm, the only noise would be from trail users (both pedestrians and bicyclists) along the fenced back and side yards of residences located on Tulane Avenue. Conversations among trail users would likely be intermittently audible at some residences in University Village but would not constitute a significant noise impact. There would be no long-term vibration impacts associated with the operation of the proposed trail.

The proposed trail alignment is located outside the Palo Alto Airport's noise impact footprint and therefore, trail users would not be exposed to excessive noise from aircraft.

Short-Term Construction Noise and Vibration Levels

Construction of the trail would generate noise and would temporarily increase noise levels at adjacent land uses. Noise impacts resulting from construction will depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors.

Trail construction is estimated to take approximately 22 weeks. The first four weeks would consist of mobilization and site preparation. The next 17 weeks would consist of trail striping on the service road, construction of paved trail segments, boardwalk and bridge construction, resurfacing of the existing trail segment and plantings. The last week would include site cleanup and demobilization. This sequence is subject to change.

A portion of the proposed trail would be adjacent to the University Villages residential neighborhood in East Palo Alto. Noise from construction activities and equipment will be audible above background noise levels, especially at the first row of homes. Depending upon the phase of construction and the equipment being used, as well as the time of day when the work occurs, such noise increases could interfere with typical residential activities such as conversations and sleeping. This would be a significant short-term noise impact; however, with implementation of the following mitigation measures, the project would not conflict with the requirements of the cities of East Palo Alto and Menlo Park.

Impact NOI-1: Construction noise could result in a temporary noise level impact on adjacent residences.

With the implementation of the following mitigation measures, construction noise would result in a less than significant impact on adjacent residences.

MM NOI-1.1: In compliance with East Palo Alto Municipal Code Section 15.04.125 and the City of Menlo Park General Plan, construction activity will be limited to 8:00 AM – 6:00 PM weekdays with no construction on Saturdays, Sundays or national holidays. This will avoid increased noise levels at adjacent residences during the noise-sensitive evening and nighttime hours.

MM NOI-1.2: The contractor shall use "new technology" power construction equipment with state-of-the-art noise shielding and muffling devices. All internal combustion engines used on the project site shall be equipped with adequate mufflers and shall be in good mechanical condition to minimize noise created by faulty or poorly maintained engines or other components.

MM NOI-1.3: Stationary noise generating equipment shall be located as far as possible from sensitive receptors.

MM NOI-1.4: Stationary equipment located within 100 feet of existing residential receivers shall be acoustically shielded.

MM NOI-1.5: Unnecessary idling of internal combustion engines in excess of five minutes will be prohibited.

MM NOI-1.6: The contractor shall prepare a construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent land uses so that construction activities can be scheduled to minimize noise disturbance.

MM NOI-1.7: The contractor will designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and would require that reasonable measures be implemented to correct the problem.

The proposed project does not require the use of pile driving for the construction of any components of the project. The boardwalk is expected to be supported by helical anchor foundations that are screwed into the ground and the bridges are expected to be supported by cast-in drilled hole pile foundations. For these reasons, ground-borne temporary construction vibration impacts would be less than significant.

4.12.2 Conclusion

Implementation of the above construction noise mitigation measures would ensure that the project would not expose nearby residents to substantial increases in ambient noise levels above existing levels or to excessive groundborne vibration or noise levels. The project would comply with applicable noise ordinances and not exceed standards established by the City of East Palo Alto. Therefore, the proposed project would not result in significant noise impacts. **(Less Than Significant Impact with Mitigation)**

4.13 POPULATION AND HOUSING

4.13.1 Setting

According to ABAG, the City of East Palo Alto had a population of approximately 29,100 residents with 7,170 households. By 2035, the population of East Palo Alto is projected to be 33,900 residents with 8,100 households. In 2015, the City of Menlo Park had a population of approximately 32,000 residents with 12,700 households. By 2035, the population of Menlo Park is projected to be 35,800 residents with 14,150 households.[22]

4.13.2 Environmental Checklist and Discussion of Impacts

POPULATION AND HOUSING					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	1,26
2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1
3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1

4.13.2.1 *Impacts to Population and Housing*

The proposed project would serve as a public trail for pedestrians and bicyclists. The project does not include facilities which would directly or indirectly result in job or population growth. The project does not propose any new housing and no housing exists on the project site. The project would, therefore, not displace housing or people.

4.13.3 Conclusion

The project would not impact population or housing. **(No Impact)**

[22] Association of Bay Area Governments. Plan Bay Area: Projections 2013. December 2013.

4.14 PUBLIC SERVICES

4.14.1 Setting

4.14.1.1 *Fire Services*

Fire protection services to the project area are provided by the Menlo Park Fire Protection District (Fire District). The Fire District serves approximately 30 square miles including the communities of Atherton, East Palo Alto, Menlo Park, and portions of unincorporated San Mateo County. The department consists of seven stations distributed throughout the Fire District service area.[23] The closest fire station to the project area is Station No. 2 located at 2290 University Avenue in East Palo Alto, approximately 2.0 miles south of the project area.

4.14.1.2 *Police Services*

Police services for the project area within municipal boundaries of the City of East Palo Alto would be provided by the City of East Palo Alto Police Department (EPAPD), which operates from its headquarters at 141 Demeter Street. The EPAPD has 48 sworn officers. The City of East Palo Alto, which covers a 2.6 square mile area, is divided into four police beats with one police officer patrolling each beat. In 2012, the City of East Palo Alto had 1,870 FBI-reported crimes; of these reported crimes approximately 64 percent were non-violent crimes (e.g., property crimes, burglary, larceny theft, and motor vehicle theft) and the remaining 36 percent were reported violent crimes.[24]

MROSD currently provides ranger patrol of the Ravenswood Open Space Preserve and the City of East Palo Alto is currently responsible for the opening and closure of the access gate at Cooley Landing Park. The Cities of East Palo Alto, Menlo Park, Palo Alto, and the San Mateo County Sheriff's Department participate in a mutual aid program. Through this program, should the East Palo Alto or Menlo Park Police Departments need additional assistance, one or more of the mutual aid cities or county would provide assistance in whatever capacity was needed.

4.14.1.3 *Parks*

A portion of MROSD's Ravenswood Open Space Preserve is located within the project site. A portion of the existing San Francisco Bay Trail traverses the Ravenswood Open Space Preserve. Jack Farrell Park is the closest City park to the project area, which is approximately 0.5 miles south of the project area. Cooley Landing (9.0 acres) is a bayfront nature park in East Palo Alto and Menlo Park, approximately 0.7 miles to the south of the project area. Palo Alto Baylands Nature Preserve is approximately 2.0 miles to the south of the project area, located in City of Palo Alto.

[23] Menlo Park Fire District. *Menlo Park Fire Protection District Information*. 2008. Available at <http://www.menlofire.org/about%20us.html>. Accessed September 27, 2012.

[24] Federal Bureau of Investigation. *Crime in the United States 2012. Table 8: California Offenses Known to Law Enforcement, by City 2012*. . Available at: < https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2012/crime-in-the-u.s.-2012/tables/8tabledatadecpdf/table-8-state-cuts/table_8_offenses_known_to_law_enforcement_by_california_by_city_2012.xls>. > . Accessed July 8, 2015.

4.14.1.4 *Schools*

The closest public elementary school to the project area is Costano School and 49ers Academy (2695 Fordham Street) in East Palo Alto, which serves kindergarten through eighth grade, and is located approximately 0.1 miles to the south. The nearest public high school to the project area is Aspire East Palo Alto Charter School (1039 Garden Street) in East Palo Alto, which serves grades kindergarten through 12 and is located approximately one mile south of the project area.

4.14.1.5 *Other Public Facilities – Libraries*

The nearest library to the project area is the East Palo Alto Library (2415 University Avenue). This library offers books, computer services, a copy center, and a homework center. The East Palo Alto Library is located one-half mile south of the project area.

4.14.2 Environmental Checklist and Discussion of Impacts

PUBLIC SERVICES					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:					
Fire Protection?	☐	☐	☒	☐	1,2,27
Police Protection?	☐	☐	☒	☐	1,2,28
Schools?	☐	☐	☐	☒	1,2,29
Parks?	☐	☐	☐	☒	1,2
Other Public Facilities?	☐	☐	☐	☒	1,2, 30

4.14.2.1 *Public Services Impacts*

Fire and Police Services

The proposed trail would be constructed in conformance with current fire codes, including adequate emergency vehicle access, features to reduce potential fire hazards, and appropriate safety features to minimize criminal activity. Assuming that the proposed extension of the existing Bay Trail would

result in an increase in trail users, there would likely be a small incremental increase in the need for emergency services. In terms of the risk of fire danger, the physical characteristics of the site would be similar both pre- and post-project and would not substantially increase the risk of fire danger. MROSD park rangers would patrol the proposed alignment which would minimize any increase in calls for service from the East Palo Alto and Menlo Police Departments. While additional activity along the trail could result in a minimal increase in demand for fire protection and police services, no new fire or police facilities would be required as a result of the project.

Parks

The project would not construct housing or create jobs and, therefore, would not result in an increased demand for park facilities and would not require additional parkland area. The project itself is a park-related feature in the form of a trail extension that will provide increased opportunities for recreation and improved access to parks.

Schools

The proposed project would not increase the population of the City of East Palo Alto or the City of Menlo Park and, therefore, would not increase the demand for schools.

Other Public Facilities – Libraries

The proposed project would not increase the population of the Cities of East Palo Alto or Menlo Park and would have no impact on the use of libraries.

4.14.3 Conclusion

The proposed project would not result in significant impacts to public services.
(Less Than Significant Impact)

4.15 RECREATION

4.15.1 Setting

4.15.1.1 *Applicable Plans, Policies and Regulations*

San Francisco Bay Trail Plan

In 1989, ABAG adopted the San Francisco Bay Trail Plan. The Bay Trail Plan set forth the route and policies for the development of the San Francisco Bay Trail, a 500-mile shoreline walking and bicycling path that will one day encircle the Bay. Since 1989, over 340 miles of the Bay Trail have been completed, following the shoreline in nine counties, passing through 47 cities and crossing four-and-a half toll bridges.

Within the project area, a segment of the existing Bay Trail is located within the Ravenswood Open Space Preserve and along University Avenue. The Bay Trail Plan includes the planned, but-not-yet-constructed Bay Trail segment between University Avenue and the Ravenswood Open Space Preserve as contemplated by the proposed project.

San Mateo County Comprehensive Bicycle Route Plan

The San Mateo County Comprehensive Bicycle Route Plan was completed by the City/County Association of Governments of San Mateo County to create a safe and effective network for bicyclists throughout the County. In the project area, the plan proposes the Bay Trail Gap Closure Project which would complete the gaps in the Bay Trail, including the trail proposed by this project, to provide a continuous trail within San Mateo County. As mentioned above, the Bay Trail gap in the project area includes the area between University Avenue and the Ravenswood Open Space Preserve. Facebook is also anticipated to construct a bicycle/pedestrian trail along the Dumbarton west bay rail corridor, in coordination with San Mateo County Transportation Authority.[25]

SFPUC Interim Water Pipeline Right of Way Use Policy for San Mateo, Santa Clara, and Alameda Counties

As part of its utility system, the SFPUC operates and maintains hundreds of miles of water pipelines and provides public use on their water pipeline property or right-of-way (ROW), consistent with their existing plans and policies. The Interim Water Pipeline Right of Way Policies help inform how and in which instances the ROW can serve the needs of third parties – including public agencies, private parties, nonprofit organizations, and developers seeding to provide recreational and other use opportunities to local communities.

[25] San Mateo County Transportation Authority. Board of Directors, Agenda Item #13A: Dumbarton Rail Update. May 7, 2015. Available at: <http://www.smcta.com/Assets/__Agendas+and+Minutes/TA/Board+of+Directors/Presentations/2015/2015-05-07+TA+Dumbarton+Update.pdf>. Accessed December 29, 2015.

In terms of recreation, SFPUC will consider trail proposals when a multi-jurisdictional entity presents a plan to incorporate specific ROW parcels into a fully connected trail. The SFPUC will only consider trail proposals where the trail would not continue onto, or encourage entry onto, another ROW parcel without a trail and the trail otherwise meets all SFPUC license requirements. The proposed project is the missing link in the San Francisco Bay Trail between the existing on-street bicycle lane of University Avenue and the existing unpaved multipurpose trails in the MROSD's Ravenswood Open Space Preserve. For this reason, the proposed trail would be fully connected and is therefore, consistent with SFPUC policies related to types of recreational uses.

East Palo Alto Recreation and Community Services Strategic Plan

The East Palo Alto Recreation and Community Services Strategic Plan outlines the City's vision for parks and recreation. In addition, the Plan includes goals and implementation strategies to achieve those goals and recommends management options to achieve the City's park and recreation goals.

Ravenswood/4 Corners TOD Specific Plan

The Ravenswood/4 Corners TOD Specific Plan includes provisions for approximately 4.5 miles of new trails that includes the proposed trail evaluated in this Initial Study. The proposed trail is part of the phased implementation of a future two-lane road and pedestrian/bicycle trail from University Avenue to connect eastward to the Bay Trail. The first phase includes the trail only and the second phase includes the trail and road.

East Palo Alto Bay Access Master Plan

The Bay Access Master Plan (BAMP) is designed to improve the amenities and quality of life of existing and future East Palo Alto residents, employers, and employees working in East Palo Alto. The guiding concept for the BAMP is to create a comprehensive system of pocket parks connected by a network of trails. This includes the proposed project, which would close the Ravenswood Bay Trail gap. The BAMP would ensure that all East Palo Alto residents can use pedestrian trails to connect to the Bay and to existing and future parks and trails such as Cooley Landing, Palo Alto Baylands Nature Preserve, Menlo Park Baylands, the Dumbarton Bridge, Ravenswood Open Space Preserve, Coyote Hills, and the Mountain View Baylands.

Ravenswood Open Space Preserve Comprehensive Use and Management Plan

In 1990, MROSD formally adopted a Comprehensive Use and Management Plan for the Ravenswood Open Space Preserve. This document identifies trail improvements to facilitate public use by pedestrians, bicyclists, and equestrians on the former salt pond levee, which is designated as the Bay Trail.

City of East Palo Alto General Plan

The City of East Palo Alto's General Plan consists of policies with the goal to provide adequate open space and recreational opportunities in the City of East Palo Alto. Recreation Policy 6.1 indicates that projects should maximize the utility of existing parks, recreational facilities, and open space.

City of Menlo Park General Plan

The City of Menlo Park's General Plan consists of policies to preserve parks and open space facilities in the City. Applicable General Plan policies include:

- **OSC2.1** Open Space for Recreation Use. Provide open space lands for a variety of recreation opportunities, make improvements, construct facilities and maintain programs that incorporate sustainable practices that promote healthy living and quality of life.

- **OSC2.6** Pedestrian and Bicycle Paths. Develop pedestrian and bicycle paths consistent with the recommendations of local and regional trail and bicycle route projects, including the Bay Trail.

4.15.1.2 *Existing Recreation Facilities*

A portion of MROSD's Ravenswood Open Space Preserve is located within the project site. A portion of the existing San Francisco Bay Trail traverses the Ravenswood Open Space Preserve. Jack Farrell Park is the closest City park to the project area, which is approximately 0.5 miles south of the project area. Cooley Landing (9.0 acres) is a bayfront nature park in East Palo Alto and Menlo Park, approximately 0.7 miles to the south of the project area. Palo Alto Baylands Nature Preserve is approximately 2.0 miles to the south of the project area, located in City of Palo Alto.

4.15.2 Environmental Checklist and Discussion of Impacts

RECREATION					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	Beneficial Impact	Checklist Source(s)
Would the project:					
1) Will the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☐	☒	1,2,31, 32,33
2) 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?	☐	☐	☐	☒	1

4.15.2.1 *Impacts to Recreational Facilities*

The proposed trail would increase recreational facilities within East Palo Alto and complete a missing connection in the San Francisco Bay Trail.

The proposed project would connect to the existing Bay Trail segment at the Ravenswood Open Space Preserve, creating an unbroken off-street route that would enhance the recreational experience, a beneficial impact. The proposed project is one of the few un-built segments of the Bay Trail between Redwood City and Alviso, and its completion would link approximately 80 miles of uninterrupted shoreline trail along the Peninsula and South Bay segments of the Bay Trail and crossing via the Dumbarton Bridge to the Don Edwards San Francisco Bay National Wildlife Refuge and Coyote Hills Park in Newark and Fremont in the East Bay segments. These 80 miles of Bay Trail also extend further inland by linking to three major regional connector trails: the Alameda County Regional Trail along Alameda Creek, the Stevens Creek Trail in Mountain View and the San Tomas Aquino Creek Trail in Santa Clara.

4.15.3 Conclusion

The project itself is a recreational facility that would connect to, and thereby improve the utility of, existing parks and trails. **(Beneficial Impact)**

4.16 TRANSPORTATION

4.16.1 Setting

4.16.1.1 *Applicable Plans, Policies and Regulations*

Metropolitan Transportation Commission

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including San Mateo County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. The most recent edition of the Regional Transportation Plan, known as Transportation 2035, was adopted in April 2009. Transportation 2035 directs funding for various projects in San Mateo County, including pavement maintenance for local streets, improvement programs for Caltrain, SamTrans, and BART, countywide shuttle service programs, and U.S. 101 operational improvements near State Route (SR) 92.

Congestion Management Program

The City/County Association of Governments of San Mateo County (C/CAG) is the designated Congestion Management Agency in San Mateo County. The Congestion Management Program (CMP) prioritizes the use of state and federal funding for roadway system improvements. The purpose of the CMP is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide solutions. The CMP is required to be consistent with the MTC planning process that includes regional goals, policies, and projects for the Regional Transportation Improvement Program. The 2011 CMP, which is developed to be consistent with MTC's Transportation 2035 Plan, provides updated program information and performance monitoring results for the CMP roadway system. The CMP roadway system is comprised of 53 roadway segments and 16 intersections, including all of the State highways within the County.

The C/CAG CMP requires a transportation analysis to be prepared when a project would add 100 or more peak-hour trips to the roadway network. Projects that generate fewer than 100 trips in either peak-hour are presumed to have a less than significant impact on the level-of-service (LOS) at intersections that would carry project traffic. The C/CAG has defined Transportation Demand Management Strategies to provide mitigation methods to reduce the number of net new vehicle trips generated by new developments. These guidelines are intended to ensure the implementation of programs to reduce the number of peak hour vehicle trips generated by new developments.

SFPUC Interim Water Pipeline Right of Way Use Policy for San Mateo, Santa Clara, and Alameda Counties

As part of its utility system, the SFPUC operates and maintains hundreds of miles of water pipelines and provides public use on their water pipeline property or right-of-way (ROW), consistent with their existing plans and policies. The Interim Water Pipeline Right of Way Policies help inform how and

in which instances the ROW can serve the needs of third parties – including public agencies, private parties, nonprofit organizations, and developers seeding to provide recreational and other use opportunities to local communities.

In terms of traffic and access, the SFPUC will consider trail proposals when a multi-jurisdictional entity presents a plan to incorporate specific ROW parcels into a fully connected trail. Licensed trail segments next to unlicensed parcels may create a trail corridor that poses liability to the SFPUC. The SFPUC will only consider trail proposals where the trail would not continue onto, or encourage entry into, another ROW parcel without a trail and the trail otherwise meets all SFPUC license requirements.

The trail project would restripe the existing service road to provide for a pedestrian/bicycle trail and would continue to accommodate SFPUC service vehicles. The proposed trail project would not affect the operation or accessibility of the adjacent SFPUC Ravenswood Valve Lot. The proposed trail would include signage informing users that the SFPUC Ravenswood Valve Lot is not open to the public and fencing or other a physical barrier to prevent trail users from accessing SFPUC facilities. For these reasons, the project is consistent with SFPUC policies related to access and types of recreational uses.

4.16.1.2 *Roadway Network*

University Avenue (SR 109) is a north/south arterial that extends from the Stanford University campus in Palo Alto to SR 84 north of East Palo Alto where it terminates. In the project area, University Avenue is a four-lane divided roadway. Bicycle lanes are striped on University Avenue between Bayfront Expressway (SR 84) and East Bayshore. There are no sidewalks on University Avenue north of Notre Dame Avenue.

U.S. 101 is a north/south freeway that extends from San Francisco through San Mateo and Santa Clara Counties. In the project vicinity, U.S. 101 is eight lanes wide and includes two High Occupancy Vehicle lanes. There are full-access interchanges at University Avenue and Willow Road that provide access to the project area.

4.16.1.3 *Transit, Pedestrian, and Bicycle Facilities*

Pedestrian and bicycle facilities in the project area consist primarily of hiking, equestrian, and biking opportunities on levee trails in the Ravenswood Open Space Preserve and in the Palo Alto Baylands Nature Preserve. Additionally, the San Francisco Bay Trail runs along the western boundary of the Ravenswood Open Space Preserve. The Bay Trail is a planned recreational corridor that, when complete, would encircle the San Francisco and San Pablo Bays with a continuous 500-mile network of bicycling and hiking trails. To date, approximately 340 miles of the alignment have been completed.[26] In the project vicinity, the proposed project is one of the few un-built segments of the Bay Trail between Redwood City and Alviso. Approximately 80 miles of shoreline trail are found on the Peninsula and South Bay, crossing via the Dumbarton Bridge to Newark and Fremont in the East

[26] Association of Bay Area Governments. *San Francisco Bay Trail*. 1999. Available at: <http://www.baytrail.org/overview.html> Accessed October 31, 2012.

Bay. These 80 miles of Bay Trail also extend further inland by linking to three major regional connector trails: the Alameda County Regional Trail along Alameda Creek, the Stevens Creek Trail in Mountain View and the San Tomas Aquino Creek Trail in Santa Clara.[27] In recent years, these trails have provided a small but growing commuting alternative for workers bicycling to job centers in the Peninsula and South Bay.

Local bicycle access to the project area is provided by bicycle lanes on Bay Road and University Avenue. Regional bicycle access to the project area is provided by the Dumbarton Bridge bicycle path and connecting paths through Ravenswood Open Space Preserve and the Palo Alto Baylands Nature Preserve.

4.16.1.4 *Existing Transit Service*

Bus service in East Palo Alto is operated by SamTrans. Commuter rail service (Caltrain) is provided from San Francisco to Gilroy by the Peninsula Corridor Joint Powers Board. SamTrans also provides a shuttle service that serves East Palo Alto and terminates at the Palo Alto Caltrain station.

Bus routes in the vicinity of the project site include the *280 Line* which provides service between the Stanford Shopping Center in Palo Alto and Purdue/Fordham in East Palo Alto via University Avenue, Donohoe Street, and Pulgas Avenue and the *296 Line* which provides service between East Palo Alto and the Redwood City Caltrain station via Middlefield Road, Willow Road, Bay Road, and Clarke Avenue. The *297 Line* can be utilized via transfer to access the Palo Alto Caltrain Station and the Redwood City Caltrain Station via University Avenue, Newbridge Street, and Willow Road. The *East Palo Alto Community Shuttle* provides service throughout East Palo Alto and operates on Pulgas Avenue, Bay Road, East Bayshore Road, Illinois Avenue, and Notre Dame Avenue.

The Dumbarton Express Shuttle provides service between Palo Alto and the Union City BART Station via two different routes: DB and DB1. Both routes operate on Willow Road and connect to U.S. 101. The nearest stops to the project area are on Willow Road and are approximately 0.8 miles to the west of the project area.[28]

[27] San Francisco Bay Trail Project. *San Francisco Peninsula Map*. Available at: <http://www.baytrail.org/maps/SF_Peninsula.pdf>. *South Bay Map*. Available at: <http://www.baytrail.org/maps/South_Bay.pdf>. Accessed July 9, 2015.
[28] The Dumbarton Express. Available at: <http://dumbartonexpress.com/route-map-2/>. Accessed July 9, 2015.

4.16.2 Environmental Checklist and Discussion of Impacts

TRANSPORTATION					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒	1,2,3,4,5,
2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒	1,34,35
3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	1,20
Would the project:					
4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☐	☒	1
5) Result in inadequate emergency access?	☐	☐	☐	☒	1,4,5,21
6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒	1,3,4,5

4.16.2.1 *Transportation Impacts*

Impacts Associated with Project-Generated Traffic

The San Mateo County CMP requires a transportation analysis to be prepared when a project would add 100 or more peak-hour vehicle trips to the roadway network.[29] Projects that generate fewer than 100 trips in either peak-hour would be presumed to have a less than significant impact on the level-of-service (LOS) at intersections that would carry project traffic.

The project consists of the construction of a trail that would connect to other trails for use by bicyclists and pedestrians, which would not generate peak-hour vehicle trips. Operation of the trail would include occasional vehicle trips associated with MROSD ranger patrols and facilities maintenance staff. Most of these trips are already existing in conjunction with the ongoing operation of the existing Bay Trail segments and the Ravenswood Open Space Preserve. The number of any new trips that would occur in the peak-hours would be less than 10. The project, therefore, would not result in a significant impact due to increased traffic.

Construction of the proposed project, which is a missing link in the Bay Trail between the existing on-street bicycle lane on University Avenue and the existing unpaved multipurpose trail in the MROSD's Ravenswood Open Space Preserve, would increase bicycle commuting within the project area. In addition, the extension of trail hours from 5 a.m. to 10 p.m. encourages commuters to utilize the trail connection, further reducing vehicle trips in the project area. This would be a beneficial impact of the proposed project.

Transit Impacts

Some bicyclists and pedestrians using the proposed trail could decide to utilize existing SamTrans bus routes to access the area, but this number is expected to be minimal. The trail itself would not impede or adversely affect any transit facilities (e.g., bus stops). Further, the trail would connect to other trails and bike lanes, which would facilitate access to transit services by bicyclists and pedestrians. The project would not, therefore, result in significant adverse impacts to transit.

Impacts to Bicycle & Pedestrian Facilities

The proposed trail is a bicycle and pedestrian improvement project that will facilitate usage of the Bay Trail, consistent with the Bay Trail Plan. This would be a beneficial impact.

Impacts to Aircraft Operations

There are no airport safety zones that encompass the proposed trail alignment. The proposed project would not create light or glare that would interfere with aircraft operations. Further, the construction and operation of the trail would not result in impacts to air traffic patterns, mapping or communication and would, therefore, not constitute a hazard to aviation.

[29] City/County Association of Governments of San Mateo County. *San Mateo County Congestion Management Program.* November 2011.

Impacts Associated with Road or Design Hazards

A portion of the trail is proposed on the SFPUC service road which provides access to the SFPUC Ravenswood Valve Lot, north of the project site. The trail project would restripe the existing service road to provide for a pedestrian/bicycle trail and would continue to accommodate SFPUC service vehicles. The proposed trail project would not affect the operation or accessibility of the adjacent SFPUC Ravenswood Valve Lot, as trail regulations enforced by MROSD personnel would prohibit trail users from entering SFPUC's property, and the project would include a physical barrier to prevent trail users from accessing SFPUC facilities. The SFPUC Bay Tunnel Pipeline construction is complete; therefore, the proposed trail construction would not interfere with the Bay Tunnel Pipeline construction project.

The proposed project does not propose to make changes to roadways that would create road hazards or alter design features developed to mitigate such hazards.

Emergency Response Impacts

As described in Section *4.8 Hazards and Hazardous Material*, the proposed project would not interfere with emergency response access within the project area. During construction of the proposed trail, construction trucks and equipment would utilize the SFPUC service road to access the construction area. It is possible that access from Fordham Street to construct the paved segment of the trail in the upland areas could also be used by construction workers. Fordham Street, however, is a dead-end roadway and is not an evacuation route.

4.16.3 Conclusion

Implementation of the proposed project would not result in an adverse transportation impact. **(No Impact)**

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Setting

4.17.1.1 *Applicable Plans, Policies and Regulations*

California Integrated Waste Management Act of 1989 - Assembly Bill (AB) 939

The California Integrated Waste Management Act (AB 939) was signed into law on September 29, 1989. The Act requires all California cities, counties, and approved regional solid waste management agencies, responsible for enacting plans and implementing programs, to divert 25 percent of their solid waste by 1995 and 50 percent by year 2000. Later legislation mandates the 50 percent diversion requirement be achieved every year. CalRecycle oversees and provides assistance to local governments as they develop and implement plans to meet the mandates of AB 939 and subsequent legislation. Local assistance staff serves as a liaison between local governments and CalRecycle and its program areas, providing input for the development of CalRecycle policies concerning local planning and implementation issues.

Urban Water Management Planning Act

Through the Urban Water Management Act of 1983 (California Water Code Section 10610 et seq.), the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five years. The Act is intended to support conservation and efficient use of urban water supplies at the local level. The Act requires that total projected water use be compared to water supply sources over the next 20 years in five-year increments; that planning occur for single and multiple dry water years; and that plans include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within the agency's service area, along with current and potential recycled water uses.

The 2010 UWMP prepared by the City of East Palo Alto and 2010 UWMP (amended in November 2014) prepared by the City of Menlo Park describe water supply sources, historical and projected water use, and existing water supply and demand within the city boundary. These UWMPs fulfill the requirements of the California Urban Water Management Planning Act.

SFPUC Interim Water Pipeline Right of Way Use Policy for San Mateo, Santa Clara, and Alameda Counties

As part of its utility system, the SFPUC operates and maintains hundreds of miles of water pipelines and provides public use on their water pipeline property or right-of-way (ROW), consistent with their existing plans and policies. The Interim Water Pipeline Right of Way Policies help inform how and in which instances the ROW can serve the needs of third parties – including public agencies, private parties, nonprofit organizations, and developers seeding to provide recreational and other use opportunities to local communities.

In terms of utilities, no utilities may be installed on the SFPUC ROW running parallel to the SFPUC's pipelines, above or below grade. In addition, all landscaping shall be maintained to ensure

water efficiency. Plantings shall be chosen and arranged taking into account climate, soils, sun exposure, and irrigation needs. The use of local native plant species and recycled (reclaimed) water is encouraged. Water runoff due to overspray, broken irrigation systems, or other conditions is prohibited. The proposed project does not include the installation of any utilities. The only plantings that would occur within SFPUC ROW would be the seeding of disturbed upland areas with native grass seed or any revegetation required by permit requirements or mitigation. Recycled (reclaimed) water would not be utilized for landscape irrigation or construction BMPS due to the sensitive nature of wetland habitats on the site and within the project area.

4.17.1.2 *Existing Utilities and Service Systems*

Water Service

The municipal water supply to the project area is provided by the American Water Enterprises under contract with the City of East Palo Alto, Department of Public Works. The source of the water supply comes from the SFPUC Hetch Hetchy water supply and distribution system.[30] The Hetch Hetchy Aqueduct right-of-way crosses the project site and enters the SFPUC Ravenswood Valve Lot (north of the project site). The Hetch Hetchy Aqueduct carries water from Yosemite National Park to San Francisco and other cities on the peninsula including East Palo Alto.

Sanitary Sewer/Wastewater Treatment

Wastewater collection and conveyance services for the project area are provided by the West Bay Sanitation District. The West Bay Sanitation District delivers its wastewater to the Silicon Valley Clean Water Treatment Plant, which provides primary, secondary, and tertiary treatment of wastewater. The Treatment Plant has a permitted treatment capacity of 29 million gallons per day (mgd) for dry weather flow and has a peak wet weather flow design capacity of 71 mgd.[31]

Storm Drainage System

The City of East Palo Alto maintains the storm drain systems within its municipal boundaries. Currently, there are no stormwater control features within the proposed project site.

Solid Waste

Solid waste and recyclable materials from East Palo Alto are initially transported to the transfer station (Shoreway Environmental Center) in San Carlos for processing and shipment.[32] The transfer station is permitted by CalRecycle to receive 3,000 tons per day (tpd)of refuse and recycles and

[30] City of East Palo Alto. 2012. *Ravenswood/4 Corners TOD Specific Plan Final EIR*. September 2012.
[31] San Francisco Bay Regional Water Quality Control Board. *South Bayside System Authority Wastewater Treatment Plant and its Associated Wastewater Collection System. Order No. R2-2012-0062, NPDES No. CA0038369*. August 2012.
[32] RethinkWaste. *Service Providers*. Available at: <http://www.rethinkwaste.org/about/service-providers>. Accessed July 10, 2015.

currently receives approximately 772 tpd.[33] CalRecycle has established a 75 percent statewide recycling goal under AB 341, which was adopted in January 2012. Prior to the adoption of AB 341, the statewide recycling goal was 50 percent.[34]

Solid waste that is not diverted from the landfill is compacted at the transfer station and transported to Ox Mountain Landfill near the City of Half Moon Bay. The landfill is permitted by CalRecycle to receive 3,598 tpd or approximately 1.15 million tons per year of solid waste, and has a permitted maximum total solid waste capacity of approximately 69 million cubic yards.

Electric and Gas Service

Electric and natural gas services are provided to East Palo Alto by the Pacific Gas & Electric Company (PG&E). Overhead PG&E high voltage electric transmission lines pass over the eastern portion of the proposed trail alignment.

4.17.2 Environmental Checklist and Discussion of Impacts

UTILITIES AND SERVICE SYSTEMS					
	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project: 1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒	1,2,36
2) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	1,2,36
Would the project: 3) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	1
4) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒	1,2

[33] City of Menlo Park. 2011. *Menlo Park Facebook Campus Project. Draft EIR*. December.
[34] CalRecycle. *California's 75 Percent Initiative: Defining the Future*. May 2015. Available at: <http://www.calrecycle.ca.gov/75Percent/>.

UTILITIES AND SERVICE SYSTEMS	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
5) 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?	☐	☐	☐	☒	1,2
6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒	1,2,37,38 39

4.17.2.1 *Utilities and Service System Impacts*

The project, which is limited to the construction of a trail, would not use water except for construction and for short-term irrigation of native plant landscaping during their initial establishment period.

A portion of the trail is proposed on the SFPUC service road which provides access to the SFPUC Ravenswood Valve Lot, north of the project site. The trail project would restripe the existing service road to provide for a 10-foot paved multi-use trail and a four-foot gravel shoulder that would continue to accommodate SFPUC service vehicles. The proposed trail project would not affect the operation or accessibility of the adjacent SFPUC Ravenswood Valve Lot. In addition, MROSD will take steps, as directed by SFPUC engineers, to ensure that construction activities (including the use of heavy equipment such as cranes and large trucks to transport bridge segments) will not damage the SFPUC's water transmission pipelines or other water utility infrastructure. Trail regulations would prohibit trail users from entering SFPUC's property, and the project would include a physical barrier to prevent trail users from accessing SFPUC facilities. With the SFPUC's Bay Tunnel Pipeline project recently completed, construction of the proposed trail construction would not interfere with that SFPUC project.

The project would not generate any wastewater and would not result in the need for new wastewater treatment facilities or expansion of existing facilities.

PG&E currently provides gas and electric service to the project area. No additional lighting is proposed at the project site; therefore, the proposed project would not increase electricity and natural gas use at the site and would not result in the need for new or expanded infrastructure. Development of the project would not adversely affect the electrical or gas system.

The operation of the trail would not generate solid waste. New landfill facilities would not need to be constructed to service the proposed project.

4.17.3 Conclusion

The project would not adversely utilities or service systems. **(No Impact)**

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
1) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to 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?	☐	☒	☐	☐	1,2,3,15, 17
2) 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)?	☐	☐	☒	☐	1
3) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐	1,2,3
4) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	1

4.18.1 Project Impacts

Under Section 15065(a)(1) of the CEQA Guidelines, a finding of significance is required if a project "has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to 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."

The project would not result in significant impacts to aesthetics, agricultural resources, geology and soils, greenhouse gas emissions, land use, mineral resources, population and housing, public services, recreation, transportation, utilities and service systems (refer to Sections 4.1, 4.2, 4.7, 4.10, 4.11, 4.13, 4.14, 4.15, 4.16, and 4.17, respectively)

With the implementation of the mitigation measures included in the proposed project and described in the air quality, biological resources, cultural resources, hazards and hazardous materials, and hydrology and water quality sections (refer to Sections *4.3 Air Quality, 4.4 Biological Resources, 4.5 Cultural Resources, 4.8 Hazards and Hazardous Materials, 4.9 Hydrology and Water Quality, and 4.12 Noise*), the proposed project would not result in significant adverse environmental impacts. Thus, the project will not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to 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.

4.18.2 Short-term Environmental Goals vs. Long-term Environmental Goals

As described in CEQA Guidelines Section 15065(a)(2), a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

The proposed project is the completion of a missing gap in the San Francisco Bay Trail and would not result in the conversion of an undeveloped use to urban uses or otherwise commit resources in a wasteful or inefficient manner. Although the proposed project would require the temporary disturbance of developed and undeveloped land as well as the irreversible and irretrievable commitment of resources during the trail construction, it is anticipated that these short-term effects would be substantially off-set by the long-term improvements to the bicycle and pedestrian transportation system that will be provided by the project.

4.18.3 Cumulative Impacts

Under Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." Using this definition, a project that has no impact in a given impact category cannot have a cumulatively considerable contribution because its contribution is zero.

The project evaluated in this Initial Study is limited to the construction of a 3,000-foot segment of the Bay Trail that will close an existing gap in the planned Bay Trail system. Due to the nature of this proposed project, many types of impacts that are frequently associated with development projects (e.g., housing, offices, commercial uses, etc.) will not occur. For example, per the analyses found throughout Section 4 of this Initial Study, the operation of the trail will have no adverse impacts on agricultural lands, air quality, cultural resources, GHGs, hazardous materials, land use, mineral resources, population and housing, recreation, transportation, and utilities. Therefore, by definition, there would be no cumulative impacts in any of these categories.

Some of the short-term, construction-related, impacts of the project (e.g., dust, noise, water quality) could combine with those of other projects being constructed in the area at the same time to become significant. In this case, however, that outcome would not occur since there are no other projects proposed in the same general area.

As described in Section 4.12.2.1, the project will have minimal noise impacts associated with conversations between people biking and walking on the trail. Because these noises will be localized, intermittent, and at low levels that will not impact many nearby residences, they would not be cumulatively considerable.

Section 4.4, the project will affect sensitive biological resources in both the short- and long-term. These impacts, however, would not result in a cumulatively significant loss of such resources because all projects, including the proposed trail, are required to comply with the "no net loss" policies of various permitting agencies. Where loss of habitat occurs, mitigation must be provided typically at ratios ranging between 1:1 and 3:1 (mitigation acreage: impact acreage), depending upon the habitat value of the lost acreage. In addition, mitigation measures ensure construction of the project will not harm protected species in the project area. As a result, the proposed project's contribution to cumulative biological impacts will not be cumulatively considerable.

4.18.4 Direct or Indirect Adverse Effects on Human Beings

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, hazards and hazardous materials, and noise. However, implementation of mitigation measures would reduce these impacts to a less than significant level. No other direct or indirect adverse effects on human beings have been identified.

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SECTION 6.0 AUTHORS AND CONSULTANTS

AUTHORS: **Midpeninsula Regional Open Space District**
Gretchen Laustsen, Open Space Planner III

CONSULTANTS: **David J. Powers & Associates, Inc.**
Environmental Consultants and Planners
Jodi Starbird, Principal Project Manager
Julie Wright, Senior Project Manager
Amber Sharpe, Assistant Project Manager
Zach Dill, Graphic Artist

Biotic Resources Group with Dana Bland & Associates
Ecological Consultants
Kathleen Lyons, Plant Ecologist
Dana Bland, Wildlife Biologist

Callander Associates, Landscape Architecture, Inc.
Architects
Brian Fletcher, Principal
Nathan Ritchie, Project Designer

Holman & Associates
Archaeological Consultants
Miley Holman, Principal

BKF Engineers
Project Civil Engineers
Jason Mansfield, Civil Engineer

Biggs Cardosa
Project Structural Engineers
Anthony Notaro, Structural Engineer

Appendix A:

Biological Report and Biological Report Appendix A – Wetland Evaluation

Bay Trail Concept Plan at Ravenswood
University Avenue to Ravenswood Open Space Preserve
Updated Conceptual Trail Alignment

Updated Biological Report

Prepared for:

David J. Powers & Associates
Attn: Amber Sharpe

Prepared by:

Biotic Resources Group
Kathleen Lyons, Plant Ecologist

With
Dana Bland & Associates
Dana Bland, Wildlife Biologist

December 8, 2014

Biotic Resources Group

2551 S. Rodeo Gulch Road #12 • Soquel, California 95073 • (831) 476-4803 • brg@cruzio.com

BAY TRAIL CONCEPT PLAN AT RAVENSWOOD
UNIVERSITY AVENUE TO RAVENSWOOD OPEN SPACE PRESERVE
UPDATED CONCEPTURAL TRAIL ALIGNMENT

1.0 INTRODUCTION

The proposed Bay Trail extension from University Avenue to Ravenswood Open Space Preserve is located within the cities of East Palo Alto and Menlo Park. The preferred trail alignment (dated July 2014) is proposed to be located south of the Dumbarton Railroad Corridor (SamTrans) on lands owned by the San Francisco Public Utilities Commission (SFPUC) and Midpeninsula Regional Open Space District (MROSD). An alternative alignment dated July 2014) would also be located south of the Dumbarton Railroad Corridor (SamTrans) and would be placed on lands owned by the State of California (CalTrans), the SFPUC and MROSD. The location of the preferred and alternative alignment, depicted on the USGS Palo Alto quadrangle, is shown on Figure 1.

The proposed project is to obtain a public trail easement and eventually construct the trail. The trail is intended to be a multi use trail to provide a connection from an existing segment of the Bay Trail within the Ravenswood Open Space Preserve to University Avenue.

The preferred alignment will include use of an existing paved SFPUC service road, a paved trail within upland grassland, and a boardwalk-style raised trail and a bridge over wetlands. From west to east, this alignment would utilize the existing SFPUC service road from University Avenue for approximately 1,500 linear feet, after which the trail would traverse approximately 600 linear feet of upland grassland, approximately 200 linear feet of coastal marsh by a raised boardwalk and bridge, 300 linear feet of additional grassland and finally approximately 600 linear feet of coastal salt marsh to its terminus with the existing Bay Trail within Ravenswood Open Space Preserve (*Proposed Conceptual Trail Alignment*, Callander Associates, Updated July 2014). Along the existing service road, the trail is proposed to be 10-12 feet in width; other portions of the trail will be 8-10 feet wide.

From west to east, the alternative alignment proposes a bridge over wetlands near University Avenue for approximately 300 linear feet (on CalTrans land), use of the existing paved SFPUC service road for approximately 1,200 linear feet, a paved trail traversing approximately 200 linear feet of upland grassland, approximately 200 feet for a bridge over coastal marsh, 400 linear feet of additional grassland and approximately 600 linear feet boardwalk-style raised trail above the coastal salt marsh to its terminus with the existing Bay Trail within Ravenswood Open Space Preserve (*Proposed Conceptual Trail Alignment*, Callander Associates, Updated July 2014).

An assessment of the biotic resources of the proposed trail route area was conducted during a site survey in April 2011. A subsequent field assessment was conducted in December 2014 to re-evaluate the area and to review the updated trail alignments. The focus of the field assessment was to identify plant community types/habitat conditions within the project area and identify potential sensitive biotic resources within the project area that may be affected by the proposed trail development.

Specific tasks conducted for this study include:

- Characterize the major plant communities within the project area;
- Identify potential sensitive biotic resources, including plant and wildlife species of concern, within the project area;
- Evaluate the potential effects of the proposed trail on sensitive biotic resources and recommend measures to avoid or reduce such impacts.

Intended Use of this Report

The findings presented in this biological report are intended for the sole use of David J. Powers & Associates, Inc. in evaluating the proposed trail project. The findings presented by the Biotic Resources Group in this report are for information and feasibility planning purposes only; they are not intended to represent the interpretation of any State, Federal or City laws or ordinances pertaining to permitting actions within sensitive habitat or endangered species. The interpretation of such laws and/or ordinances is the responsibility of the applicable governing body.

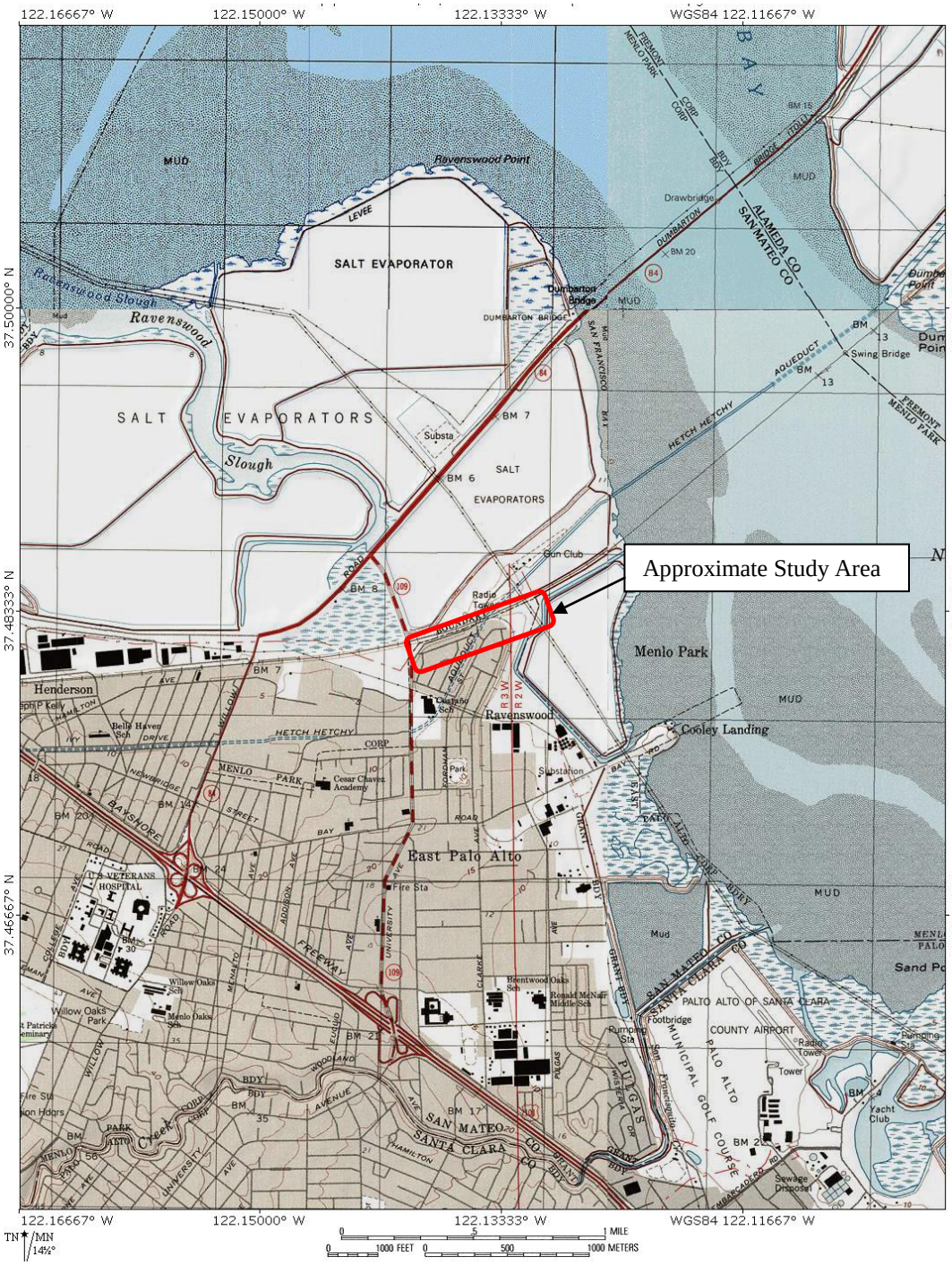


Figure 1. Location of Project
(USGS Palo Alto Quadrangle)

2.0 EXISTING BIOTIC RESOURCES

2.1 METHODOLOGY

The biotic resources of the proposed Bay Trail - University Avenue to Ravenswood Open Space Preserve project area were assessed through field observations on April 27, 2011 and December 3, 2014. In 2011, Kathleen Lyons, plant ecologist, and Dana Bland, wildlife biologist, viewed the general location of the trail alignment, as well as adjacent areas. Kathleen Lyons conducted a second assessment on December 3, 2014. Viewing was conducted from various locations along the preferred and alternative alignments the railroad line and other access points within lands owned by CalTrans, SFPUC, and MROSD. Since the trail alignment is preliminary and the route was not flagged or otherwise identified in the field at the time of the survey, the assessment is considered to be an evaluation of general site conditions within the project area.

To assess the potential occurrence of special status biotic resources within the project area, two electronic databases were accessed to determine recorded occurrences of sensitive plant communities and sensitive species. Information was obtained from the California Native Plant Society's (CNPS) Electronic Inventory and California Department of Fish & Wildlife (CDFW) Natural Diversity DataBase "RareFind" (CNDDB) for the project's U.S.G.S. quadrangle (Palo Alto) and surrounding quadrangles in 2012 and was rechecked in 2014. Prior to conducting field surveys, a potential list of special status or sensitive species was prepared, utilizing species documented in the data base search and species recently evaluated for the nearby SFPUC Bay Tunnel Project. The *Jepson Manual* (2012) was the principal taxonomic reference used for the botanical work. Previous reports for the greater project area were also reviewed, such as environmental documents prepared for the nearby SFPUC Bay Tunnel project (e.g., Bay Division Pipeline Reliability Upgrade Project, July 2009) and a preliminary wildlife habitat assessment (Dana Bland & Associates, 2004).

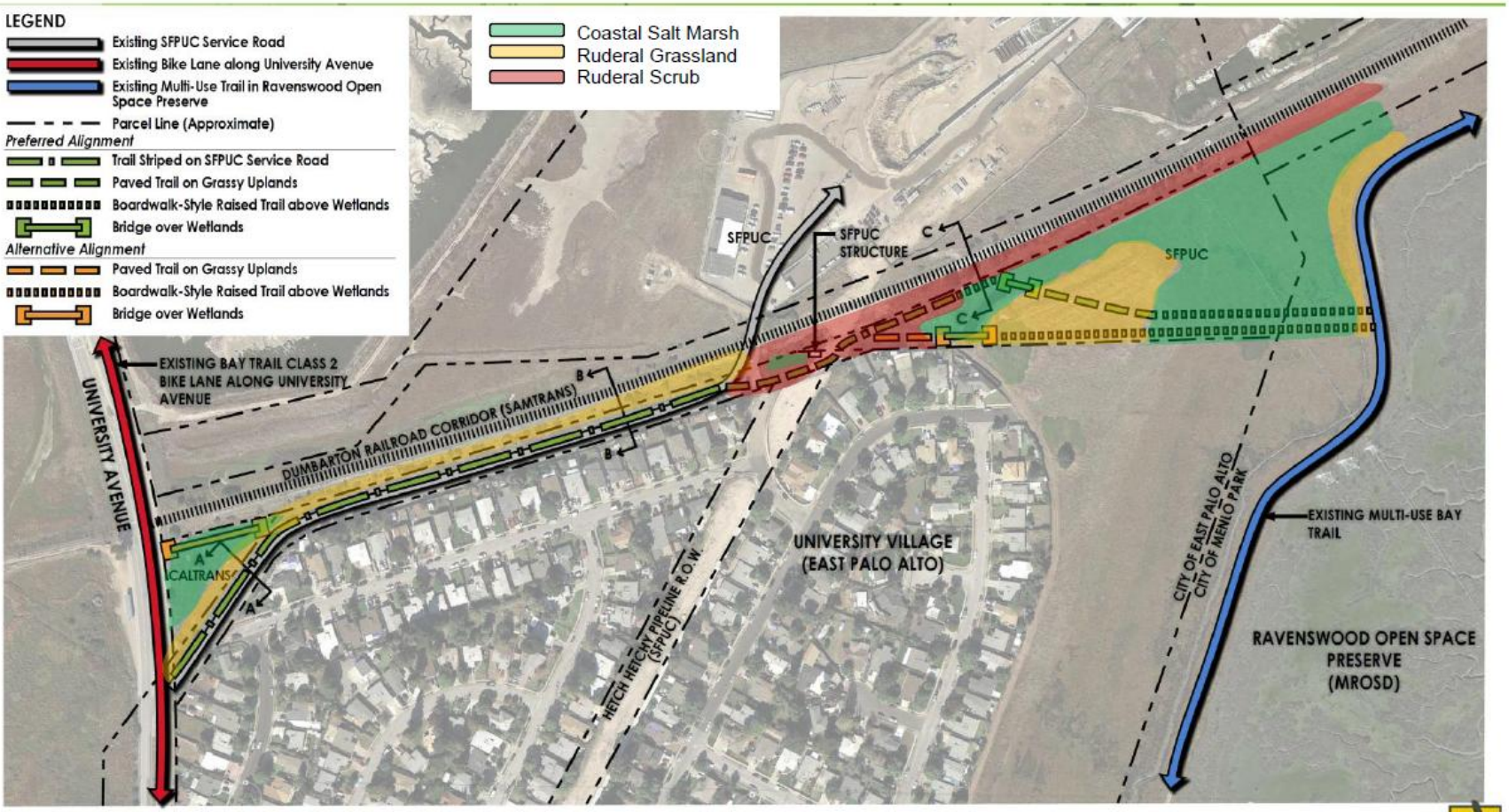
This report summarizes the findings of the biotic assessment. The potential impacts of the proposed development of the multi-use trail on sensitive biological resources are discussed below. Measures to reduce significant impacts to a level of less-than-significant are recommended, as applicable.

2.2 VEGETATION AND WILDLIFE

Three plant community types were observed within the project area: ruderal (weedy) grassland, ruderal (weedy) scrub, and northern coastal salt marsh. There are also ponded areas and channels within the salt marsh. The distribution of the habitats within the project area is depicted on Figure 2. A recent aerial image of the project area and surrounding vegetation is depicted on Figure 3.

2.2.1 Northern Coastal Salt Marsh

The low elevation plain south of the railroad line supports coastal salt marsh. This area supports a dense growth of pickleweed (*Salicornia pacifica)*. Associated species include salt grass (*Distichlis spicata)*, alkali heath (*Frankenia salina)*, and marsh gumplant (*Grindelia stricta*). Other species include Mediterranean barley (*Hordeum marianum ssp. gussoneanum)*, seablite (*Suaeda sp.)*, and California cordgrass (*Spartina foliosa)*. CDFW classifies this marsh habitat as pickleweed – alkali heath mats. An open water pond, with wetlands, is located north of the residences (University Villages) and small open water features (small ponds and channels) occur within the marsh. Water appears to be from subsurface flow/groundwater and a tidal connection to San Francisco Bay to the south and east (see Figure 3).



Attachment 2: Proposed Conceptual Trail Alignment

Figure 2. Distribution of Habitat Types in Project Area

Figure 3. Aerial Image of Project Area and Surrounding Area (Aerial photo dated 10/11)

The extent of the wetlands was re-evaluated in December 2014, particularly the wetlands within the CalTrans property near University Avenue and the wetlands on SFPUC land near University Village. GPS points were obtained to demarcate the approximate edge of the wetlands in these locations. This information is presented in Figures A-1 and A-2 in Appendix A. Figure 4 depicts the CalTrans wetland, looking eastward from near University Avenue. Figures 5 and 6 depict the condition of wetlands on SFPUC property.

Figure 4. Wetlands within CalTrans property, looking eastward, December 2014

Figure 5. Wetlands on SFPUC land, center area, looking eastward, December 2014

Figure 6. Wetlands and ponded area on SFPUC land, looking eastward, December 2014

The northern coastal salt marsh at this site has marginal tidal connections to San Francisco Bay; most of the marsh is ringed by a levee, as depicted on Figure 3. This likely affects the diversity of wildlife that typically uses this habitat type, compared to the adjacent Ravenswood marsh which is directly open to the bay. The small channels and pools within the salt marsh provide substrate and nutrients for invertebrates, which in turn provide forage for birds and small mammals. Common native wildlife that are expected to utilize this salt marsh include snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), black-necked stilt (*Himantopus mexicanus*), willet (*Catoptrophorus semipalmatus*), western sandpiper (*Calidris mauri*), and harvest mouse (*Reithrodontomys megalotis*).

2.2.2 Ruderal Grassland

The edge of the railroad line, higher elevation areas south of the railroad, as well as areas along the existing SFPUC service road support upland, weedy vegetation. The ruderal (weedy) vegetation consists of common, non-native grasses, such as wild oat (*Avena sp.)*, ripgut brome (*Bromus diandrus)*, Italian ryegrass (*Lolium multiflorum)*, canary grass (*Phalaris sp.)*, and rattail fescue (*Vulpia myuros)*. One patch of native grass was observed near the pond: creeping ryegrass (*Elymus triticoides)*. Forbs are also common and are primarily non-native. Observed forbs include wild mustard (*Brassica sp.)*, summer mustard (*Hirschfeldia incana)*, bristly ox-tongue (*Helminthotheca echioides)*, fennel (*Foeniculum vulgare)*, bur clover (*Medicago polymorpha)*, iceplant (*Carpobrotus sp.)*, wild radish (*Raphanus sativa)*, bull mallow (*Malva neglecta)*, salsify (*Tragopogon porrifolius)*, and slender/Italian thistle (*Carduus spp.)*.

The ruderal grassland at this site provides forage for seed and insect eating birds, as well as for small rodents, which in turn are prey for raptors and snakes. Common bird species expected to occur in this grassland include mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), cliff swallow *(Hirundo pyrrhonota)*, and Brewer's blackbird *(Euphagus cyanocephallus*). Other wildlife that commonly inhabit grasslands include Botta's pocket gopher (*Thomomys bottae*), ground squirrel *(Spermophilus beecheyi)*, and black-tailed jackrabbit *(Lepus californicus*). The abundance of small mammals in grasslands attracts predators such as red-tailed hawk *(Buteo jamaicensis)*, coyote (*Canis latrans*), and gopher snake (*Pituophis melanoleucus*).

2.2.3 Ruderal Scrub

The edges of the railroad line as well as areas along the existing SFPUC service road support weedy shrubs and herbaceous plants. This scrub is characterized by non-native shrubs, such as olive (*Olea europaea)*, small non-native trees, and evergreen landscape shrubs. Herbaceous plants are typical of those found in the ruderal grassland and include wild oat, wild mustard, canary grass, ripgut brome, and fennel. Native species are limited to California poppy (*Eschscholzia californica)*.

The berries of shrubs and the seeds of herbaceous plants in the ruderal scrub habitat provide important forage for wildlife. Wildlife may perch on the outer perimeter of mixed scrub to take advantage of hunting opportunities in adjacent openings, and take cover in the denser shrub patches as needed. Common wildlife species found in ruderal scrub include western fence lizard (*Sceloporus occidentalis*), California towhee *(Pipilo crissalis)*, and white-crowned sparrow (*Zonotrichia leucophrys*).

2.3 SENSITIVE BIOTIC RESOURCES

2.3.1 Sensitive Habitats

Sensitive habitats are defined by local, State, or Federal agencies as those habitats that support special status species, provide important habitat values for wildlife, represent areas of unusual or regionally restricted habitat types, and/or provide high biological diversity.

Within the project area the coastal salt marsh is considered sensitive due to its importance to animal species and the bay ecosystem. The habitat is recognized as sensitive by state and federal agencies. CDFW ranks pickleweed – alkali heath mats (code 52.215.09) as S3. This ranking indicates that the vegetation type is highly imperiled. Habitats that support rare or endangered species are also considered sensitive.

2.3.2 Regulated Habitats

CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake which supports fish or wildlife. CDFW also regulates alterations to ponds and impoundments; CDFW jurisdictional limits typically extend to the top of bank or to the edge of riparian habitat if such habitat extends beyond top of bank (outer drip line), whichever is greater. The marsh, pond and drainages within the coastal salt marsh may be within the regulatory jurisdiction of CDFW.

Water quality in California is governed by the Porter-Cologne Water Quality Control Act and certification authority under Section 401 of the Clean Water Act, as administered by the Regional Water Quality Control Board (RWQCB). The Section 401 water quality certification program allows the State to ensure that activities requiring a Federal permit or license comply with State water quality standards. Water quality certification must be based on a finding that the proposed discharge will comply with water quality standards which are in the regional board's basin plans. The Porter-Cologne Act requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of the waters of the state to file a report of waste discharge. The RWQCB issues a permit or waiver that includes implementing water quality control plans that take into account the beneficial uses to be protected. Waters of the State subject to RWQCB regulation extend to the top of bank, as well as isolated water/wetland features and saline waters. The RWQCB interprets waste to include fill placed into water bodies. The marsh, ponds and drainages within the salt marsh may be located within the jurisdictional area of the RWQCB.

The US Army Corps of Engineers (USACE) regulates activities within waters of the United States pursuant to congressional acts: Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (1977, as amended). Section 10 of the Rivers and Harbors Act requires a permit for any work in, over, or under navigable waters of the United States. Navigable waters are defined as those waters subject to the ebb and flow of the tide to the Mean High Water mark (tidal areas) or below the Ordinary High Water mark (freshwater areas). The coastal salt marsh would be jurisdictional under current USACE regulation.

2.3.3 Special Status Plant Species

Plant species of concern include those listed by either the Federal or State resource agencies as well as those identified as rare by CNPS. A search of the CNPS and CNDDB inventories for the Palo Alto and surrounding quadrangles and a review of pertinent literature, found the site to have limited resources to support special status species. Special status plant species evaluated for the potential to occur in the project vicinity are provided in Table 1.

Three species were found to have potential for occurrence within the project site: Congdon's tarplant, Hoover's button-celery, and caper-fruited tropidocarpum. These species occur in mesic and alkaline grasslands. Some areas of the project site, such as along the salt marsh edge or lower elevation areas within the grasslands may provide suitable habitat; however no individuals were observed during the April 2011 or December 2014 field visits. No special status plant species were recorded from the project area during surveys conducted for the nearby SFPUC Bay Tunnel Project; however, CNDDB has a record of Congdon's tarplant from the Ravenswood area, south of the railroad tracks (occurrence #54). MROSD personnel reported seeing Congdon's tarplant on or near the trail alignment in July 2014 (MROSD, pers. comm.,

2014). No individuals of Congdon's tarplant were detected during the December 2014 survey; however, this survey was conducted outside the blooming period and any plants may have declined beyond identification at that time of year. Portions of the project area contain suitable habitat for this species, particularly the grassland/wetland interface.

The project area lacks specialized habitats and substrates to support many other special status species (e.g., serpentine endemics) (see Table 1). In addition, the weedy condition of the upland grassland reduces the potential for many of these special status species to occur on site.

Table 1. Special Status Plant Species Evaluated for Occurrence at the Bay Trail at Ravenswood Project Area

Species	Status	Habitat	Known Occurrence on Site/Vicinity Potential Habitat within Project Area?
Acanthomintha duttonii San Mateo thornmint	FE, SE, List 1B.1	Valley and foothill grassland, serpentine	Near Menlo County Club Golf Course, likely extirpated (1915) No suitable habitat present; not observed
Allium peninsulare var. franciscanum Franciscan onion	List 1B.2	Grasslands, oak woodlands; often on serpentine	Jasper Ridge, Page Mill Road, Farm Hill Blvd (Stulsaft Park) No suitable habitat; not observed
Centromadia parryi ssp. congdonii Congdon's tarplant	List 1B.2	Grasslands. Often mesic, can be alkaline	Ravenswood area of East Palo Alto, S out RR Tracks CNDDB Occ. #54 Potential habitat at grassland/wetland interface; observed by MROSD personnel in project area in July 2014
Cirsium fontinale var. fontinale Fountain thistle	FE, SE, List 1B.1	Chaparral, grassland, serpentine	Stulsaft Park in Redwood City, E of Woodside Glen No suitable habitat; not observed
Cirsium praeteriens Lost thistle	List 1A	Unknown	Considered extinct; historic occurrence from Palo Alto Not observed
Collinsia multicolor San Francisco collinsia	List 1B.2	Pine forests, coastal scrub, often on serpentine	Stanford University (1913) No suitable habitat; not observed
Dirca occidentalis Western leatherwood	List 1B.2	Upland forests, chaparral	Jasper Ridge Area: Los Trancos Creek and San Francisquito Creek No suitable habitat; not observed
Eryngium aristulatum var. hooveri Hoover's button celery	List 1B.2	Vernal swales, mesic grassland	Foothills near Stanford Potentially suitable habitat in moist portions of grassland/pond; not observed
Fritillaria liliacea Fragrant fritillary	List 1B.2	Woodlands, prairie, coastal scrub	Hills near Stanford (herbarium, 1934) No suitable habitat; not observed
Hesperolinum congestum Marin western flax	FT, ST, List 1B.1	Chaparral, grassland, serpentine	Stulsaft Park, Redwood City No suitable habitat; not observed

Malacothamnus arcuatus Arcuate bush-mallow	List 1B.2	Chaparral	Jasper Ridge, Arastradero Preserve, Los Trancos Creek No suitable habitat; not observed

Table 1. Special Status Plant Species Evaluated for Occurrence at the Bay Trail at Ravenswood Project Area

Species	Status	Habitat	Known Occurrence on Site/Vicinity Potential Habitat within Project Area?
Malacothamnus davidsonii Davidson's bush-mallow	List 1B.2	Chaparral, scrub	Foothills near Stanford (1936) No suitable habitat; not observed
Monolopia gracilens Woodland woolythreads	List 1B.2	Grasslands, woodlands	Jasper Ridge, Road to La Honda (1929) No suitable habitat; not observed
Plagiobothrys chorisianus var. chorisianus Choris' popcorn flower	List 1B.2	Chaparral, coastal scrub and coastal prairie	El Corte Madera Creek area (1898) No suitable habitat; not observed
Trifolium amoenum Showy rancheria clover	List 1B.1	Grasslands, serpentine	Searsville Lake, Stanford University (1950) No suitable habitat; not observed
Tropidocarpum capparideum Caper-fruited tropidocarpum	List 1B.1	Valley and foothill grassland, alkaline	Foothills near Stanford Potentially suitable habitat in moist portions of grassland/pond; not observed

CNPS Status:

List 1A: Plants presumed extinct in California; **List 1B:** These plants (predominately endemic) are rare through their range and are currently vulnerable or have a high potential for vulnerability due to limited or threatened habitat, few individuals per population, or a limited number of populations. List 1B plants meet the definitions of Section 1901, Chapter 10 of the CDFG Code.

Federal and State Status:

T: Designated as a threatened species by the federal government or the California Fish and Game Commission

E: Designated as an endangered species by the federal government or the California Fish and Game Commission

2.3.4 Special Status Wildlife Species

Special status wildlife species include those listed, proposed or candidate species by the Federal or the State resource agencies as well as those identified as State species of special concern. In addition, all raptor nests are protected by Fish and Game Code, and all migratory bird nests are protected by the Federal Migratory Bird Treaty Act. Special status wildlife species were evaluated for their potential presence in the project area as described in Table 2 below.

Table 2. Special Status Wildlife Species and Their Predicted Occurrence at the Bay Trail at Ravenswood Project Area

Species	Status[1]	Habitat	Potential Occurrence On Site
Invertebrates			
Bay checkerspot butterfly *Euphydryas editha bayensis*	FE	Grasslands with larval host plant *Sedum spathuilfolium*	None. No suitable habitat on site.
Amphibians			
California tiger salamander *Ambystoma californiense*	FT, CSC	Ponds for breeding, grasslands with burrows for upland habitat	None, no suitable habitat on site.

Table 2. Special Status Wildlife Species and Their Predicted Occurrence at the Bay Trail at Ravenswood Project Area

Species	Status[1]	Habitat	Potential Occurrence On Site
California red-legged frog *Rana aurora draytonii*	FT, CSC	Riparian, marshes, estuaries and ponds with still water at least into June for breeding.	None, no suitable freshwater habitat.
Reptiles			
Western pond turtle *Actinemmys marmorata*	CSC	Creeks and ponds with water of sufficient depth for escape cover, and structure for basking; grasslands or bare areas for nesting.	None, no suitable freshwater habitat.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE, SE	Creeks and ponds with adjacent open grasslands for upland refugia	None, no suitable habitat on site.
Birds			
California clapper rail *Rallus longirostris obsoletus*	SE, FE	Salt marshes with sloughs and dense pickleweed	Habitat marginal; presumed occasionally present for foraging or resting.
California black rail *Laterallus jamaicensis coturniculus*	ST	Fresh and salt water marshes with dense vegetation	Habitat marginal; presumed occasionally present for foraging or resting.
Western snowy plover *Charadrius alexandrinum nivosus*	FT	Salt pond levees, alkali flats, sandy beaches	None, no suitable habitat.
California least tern *Sterna antillarum browni*	SE, FE	Coasts and bay margins with sandy beach, alkali flat, open bare ground	None, no suitable habitat.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	CSC	Nests in dense vegetation at water's edge of ponds, estuaries, creeks	None, no suitable habitat on site.
Alameda song sparrow *Melospiza melodia pusillula*	CSC	Dense bulrush and/or cattail vegetation adjacent to freshwater marshes	None, no suitable habitat on site.
Mammals			
Pallid bat *Antrozous pallidus*	CSC	Roosts in rock outcroppings, caves, hollow trees, mines, buildings and bridges.	None, no suitable habitat.
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	CSC	Medium to high salt marsh with abundant drift wood.	Habitat marginal; presumed present in low numbers.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	SE, FE	Pickleweed salt marsh of San Francisco Bay	Habitat marginal; known from nearby Ravenswood marsh; presumed present in low numbers.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	CSC	Oak, pine and riparian woodlands	None, no suitable habitat.
American badger *Taxidea taxus*	CSC	Grasslands with friable soils	None, no suitable habitat.

[1] Key to status: FE=Federally listed as endangered species; FT=Federally listed as threatened species; SE=State listed as endangered species; ST=State listed as threatened species; CSC=California species of special concern

3.0 IMPACT AND MITIGATION ANALYSIS

3.1 IMPACT CRITERIA

The thresholds of significance presented in the CEQA Guidelines were used to evaluate project impacts and to determine if implementation of the proposed project would pose significant impacts to biological resources. For this analysis, significant impacts are those that substantially affect, either directly or through habitat modifications:

- A species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2 ENVIRONMENTAL IMPACTS, MITIGATION MEASURES AND SIGNIFICANCE DETERMINATION FOR THE PROPOSED PROJECT

The preferred trail alignment would utilize the existing SFPUC service road from University Avenue for approximately 1,500 linear feet, after which the trail would traverse approximately 600 linear feet of upland grassland and 1,100 linear feet of coastal marsh to its terminus in with the existing Bay Trail within MROSD's Ravenswood Open Space Preserve (Callander Associates, July 2014). The alternative alignment is similar but would traverse approximately 500 linear feet of upland grassland and 1,400 linear feet of coastal marsh (on CalTrans and SFPUC property) (Callander Associates, July 2014).

Implementation of the preferred or alternative alignment will affect ruderal grassland or ruderal scrub vegetation near the end of the existing service road and in an upland area north of the University Villages residential area. Due to the prevalence of the non-native plant species within these habitat types, the removal of ruderal grassland or ruderal scrub vegetation is not considered a significant impact to botanical resources. The project will also include striping the existing SFPUC service road to designate the trail route; no significant impacts to biological resources will occur from this work.

Implementation of the preferred or alternative alignment may affect special status plant species if present. Although not observed during site surveys in April 2011 or December 2014, there is a CNDDB record and an observation by MROSD personnel of Congdon's tarplant within or near the trail alignment (see Section 3.2.1, below). The project will also impact one sensitive habitat: coastal salt marsh. Impacts will be incurred by the construction of raised boardwalks and bridges (see Section 3.2.2, below). The project also has the potential to affect special status mammals that may be present in the coastal salt marsh and

ruderal grassland and scrub (see Section 3.2.3, below). Measures to avoid, minimize, and/or compensate for these impacts to a less than significant level are outlined below.

3.2.1 Impacts to Special Status Plant Species

Congdon's tarplant (*Centromadia parryi ssp. congdonii)* is a species with no Federal or State status but is a species considered rare by its designation on the California Native Plant Society List 1B.2. Congdon's tarplant is an annual species and its distribution can change from year to year. The project area has the potential to support Congdon's tarplant, as the species has been recorded in the CNDDB as occurring south of the railroad tracks and the species was detected by MROSD personnel in July 2014. If occurrences of this species are found to occur within the trail construction alignment, disturbance to the species and its habitat would occur. In order to avoid and minimize impacts to Congdon's tarplant, the following actions should be followed:

1) A survey should be conducted during the blooming period of the tarplant by a qualified biologist; the typical blooming period is from June through October. Occurrences of Congdon's tarplant should be documented by GPS and demarcated on project plans and in the field. A CNDDB field survey form should be completed and submitted to CDFW. If Congdon's tarplant is found within the proposed trail alignment, the trail will be re-routed to avoid the plants. If avoidance is not feasible, qualified MROSD personnel will collect available seed from the plants in the impact area. MROSD will develop and implement a revegetation program wherein the collected seed will be distributed into suitable habitat within the project vicinity to achieve no net loss of tarplant individuals.
2) If Congdon's tarplant is found adjacent to the construction area, prior to construction, temporary construction fencing should be installed along edge of construction to prevent any inadvertent equipment entry or other site disturbance into areas that support Congdon's tarplant. An informational sheet describing the species and avoidance measures should be given to the construction manager for dissemination to on-site workers.

3.2.2 Impacts to Sensitive Habitat

- ***Preferred Alignment***. The preferred trail alignment will traverse approximately 800 linear feet of coastal salt marsh. A bridge and raised boardwalk are proposed to cross a low-elevation marsh immediately south of the railroad line. The proposed bridge will span the marsh, yet abutments will likely be required and these may be placed in wetland areas, pending review of more detailed design documents. A raised boardwalk is also proposed to span the larger low-elevation marsh in the easternmost portion of the study area. The boardwalk will be supported on a series of helical anchor piers that are screwed into the ground surface. Each pier will consist of a supporting pipe (2-1/8th inch diameter) with an attached underground helix (up to 16" in diameter). The boardwalk will be 3-4 feet above the marsh surface. The helical anchor piers will be screwed into the ground using portable equipment (hand-held drill); there will be no soil excavation. Permanent impacts to the coastal salt marsh will be limited to the footprint of the supporting shafts and possible shading of marsh vegetation from the elevated boardwalk. The helix will be underground, so no permanent impact to the coastal salt marsh is expected from the helix. Approximately 6,400 square feet of raised boardwalk will be constructed; however, since the boardwalk will be raised 3-4 feet above the marsh plain not all of this area will be shaded to an extent that would preclude growth of marsh vegetation. In addition, small areas within the marsh in this area are currently devoid of vegetation or support open water channels; these areas will not be affected by the shade cast from the raised boardwalk.

- ***Alternative Alignment.*** The alternative alignment proposes a bridge to span the marsh wetland on the CalTrans property; abutments may be required in the wetland, pending review of more detailed design documents. The reminder of the trail will traverse an additional 750 linear feet of marsh. A bridge is proposed to cross a low-elevation marsh and a raised boardwalk is proposed to span the larger low-elevation marsh in the easternmost portion of the study area (similar to the preferred alignment). Construction of the raised boardwalk will be the same as described for the preferred alignment.

Both alignments will result in temporary impacts to the coastal salt marsh during construction of the raised boardwalk and the bridges. This will occur from hand crews drilling the helical anchor piers and attaching the boardwalk structure to the piers and bridge construction. Vegetation in and adjacent to the structures will be trampled; however, where only hand crew work is allowed, the vegetation within these areas is expected to naturally recover after the next growing season.

For both alignments, construction of the paved trail through the central grassy area may require temporary construction access across a small wetland area to reach the trail construction area (if an upland access route across private property from Fordham Street within University Village is not available). Wetland construction matting is proposed to cover any wetland areas needed for the temporary access to minimize trampling of vegetation. Construction access may temporarily affect approximately 1,800 square feet of coastal marsh; the matting is expected to only be in place for up to two days so the temporary impact to the marsh vegetation is not considered significant.

Measures to avoid or minimize impacts to wetland and water resources and to prevent indirect impacts to such resources are identified. These measures include:

1) A contractor education program shall be developed to educate all construction personnel of measures to prevent indirect impacts to wetlands and water resources.
2) Coastal salt marsh vegetation adjacent to the construction work areas shall be protected from inadvertent construction impacts by the placement of construction mesh fencing. The project applicant shall ensure that all fencing is in place prior to construction operations/grading.
3) Implement erosion control measures during and following construction to avoid deposition of sediment into adjacent coastal salt marsh and watercourses. The project applicant shall install and maintain perimeter silt fencing or hay bales and implement post-construction erosion control seeding. The project applicant shall utilize native plant species in the revegetation of disturbed areas.
4) Placement of temporary matting in the coastal salt marsh (for temporary construction access to the grassland area if an upland alternative is not available) may be subject to permitting under Section 404 of the Clean Water Act, Section 1601 of the Fish and Game Code, and water quality certification from the Regional Water Quality Control Board. The project applicant shall obtain all permits and certifications prior to construction, if so required by regulatory agencies.
5) Placement of the bridge abutments and helical anchor piers (shafts and helixes) within the coastal salt marsh may be subject to permitting under Section 404 of the Clean Water Act, Section 1601 of the Fish and Game Code, and water quality certification from the Regional Water Quality Control Board. The project applicant shall obtain all permits and certifications prior to construction, if so required by regulatory agencies.

6) One year after bridge and boardwalk construction and construction access in wetland area (is used); the project applicant shall monitor the recovery of all coastal salt marsh areas temporarily affected by trail construction and/or equipment/worker access. If native coastal salt marsh vegetation has not naturally recovered within the disturbed area and providing at least 30% plant cover, the project applicant shall implement remedial seeding of the disturbed areas to encourage marsh restoration. Seed from locally collected native coastal salt marsh plant species shall be used for the restoration work.

3.2.3 Impacts to Special Status Mammal Species

The salt-marsh harvest mouse (SMHM), a species listed as endangered by both the state and federal resource agencies, is known to occur in the adjacent Ravenswood marsh (CDFW 2014). The salt-marsh wandering shrew (SMWS), a California Species of Special Concern, is known from salt marsh within one mile of this site (CDFW 2014). The salt marsh and adjacent ruderal grasslands and scrub habitats at this trail site were also analyzed for these protected species as part of the Ravenswood/4 Corners Specific Plan (City of East Palo Alto 2009) and as part of the nearby SFPUC new pipeline project (San Francisco Planning Dept. 2009). Although the habitat at this trail site is considered marginal for these mammals, it is presumed that they may occur in low numbers.

SMHM and SMWS may be injured or killed by worker access or equipment use within the coastal salt marsh and ruderal grassland or scrub (both alignments). Indirect effects to these species include harassment to individuals if any must be relocated prior to construction, and both temporary and permanent loss of habitat. It is recommended that measures similar to those implemented by the SFPUC for their pipeline project be implemented for this trail project to avoid, minimize, and compensate for direct and indirect effects to SMHM and SMWS. The measures recommended for this project include less compensation than that implemented for the SFPUC project because the construction of this trail project is of much shorter duration (approximately 12 weeks) and involves a much smaller impact area, thus potential short-term and long-term impacts to the species are expected to be considerably less. These measures are listed below.

Avoidance, Minimization and Compensation Measures for SMHM and SMWS:

1) The project applicant shall consult with USFWS and CDFW through the Section 7 process for the 404 permit from the USACE or the Section 10 process, and obtain all necessary approvals for implementing measures to protect these species.
2) A contractor education program shall be developed to educate all construction personnel of the potential presence of endangered or threatened wildlife species before they begin any work on the job site. Personnel will be informed of the species' sensitivity to human activities, the legal protection afforded to these species, the penalties for violating these legal protections, their responsibilities, applicable mitigation measures, and the roles and authority of the monitoring biologists.
3) Before construction activities begin at the Bay Trail at Ravenswood Project, exclusion fencing adequate to prevent the entry of SMHM and SMWS shall be installed around all work areas adjacent to suitable SMHM habitat (i.e., coastal salt marsh with pickleweed and adjacent upland escape habitat). The final design and placement of the exclusion fencing will be developed in consultation with the USFWS and CDFW.
4) A qualified biologist shall trap all areas within the exclusion zones that support suitable pickleweed or upland escape habitat. All captured SMHM and SMWS shall be relocated to the nearest appropriate habitat outside the exclusion fencing.

5) Because only a small amount (12.75 sq. ft.) of coastal salt marsh vegetation within the exclusion zones will be permanently impacted by the proposed project, clearing of all vegetation within the exclusion zone is not recommended as this would cause considerably more temporary impacts to SMHM and SMWS habitat than necessary for the project. The exclusion fencing will be maintained as long as construction-related activities are conducted adjacent to suitable SMHM and SMWS habitat (including habitat below the raised boardwalk). The contractor will inspect the fence weekly to ensure its integrity. The USFWS and CDFW may revise the frequency of monitoring.
6) All work associated with the boardwalk (i.e., anchor piers and wood decking) shall be done by hand crews, using hand tools, including hand-held drills and other equipment.
7) Upon the completion of construction, any upland areas used for stockpiling of spoils and/or construction equipment and supplies will be restored in accordance with an approved erosion control plan. Surface grade will be restored and revegetated with an erosion control seed mix comprised of appropriate native and nonnative herbaceous plant species.
8) Permanent impacts on suitable SMHM or SMWS breeding habitat and upland habitat will be mitigated at a ratio of one acre preserved for each acre lost (1:1). Due to the small area of coastal salt marsh permanently affected by this project, mitigation shall consist of enhancement at a minimum of 1:1 ratio of nearby suitable SMHM habitat (potentially on other lands owned by MROSD, SFPUC, or other public agency), subject to the approval of the USFWS and CDFW. Enhancement shall consist of installing pickleweed plants in bare areas to meet the 1:1 ratio. Impacts to upland habitat will be mitigated by enhancing other upland areas at a minimum 1:1 ratio (potentially on other lands owned by MROSD, SFPUC, or other public agency); tasks shall include removal/control of invasive, non-native plant species and other measures as identified by CDFW and USFWS.
9) Temporary impacts to suitable SMHM and SMWS habitats will be rehabilitated on site as stated above in Measures 3.2.2 subject to the approval of the USFWS and CDFW.

3.2.4 Impacts to Special Status Bird Species

The California clapper rail (CCR), a species listed as endangered by both the state and federal resource agencies, is known to occur in the adjacent Ravenswood marsh (CDFW 2014). The California black rail (CBR), a state listed as threatened by the state, is known from salt marshes approximately three miles from this site (CDFW 2014). The salt marsh habitat at the proposed trail site was also analyzed for these protected species as part of the Ravenswood/4 Corners Specific Plan (City of East Palo Alto 2009) and as part of the nearby SFPUC new pipeline project (San Francisco Planning Dept. 2009). Although the habitat at this trail site is considered very marginal for nesting by these birds because the pickleweed and cordgrass cover is sparser than other known breeding sites, it is presumed that they may occur in low numbers, primarily for foraging or resting.

It is unlikely that non-nesting CCR and CBR would be injured or killed by equipment during construction of the new trail because they are capable of flying away. Indirect effects to these species include harassment of individuals by disturbance during construction. It is recommended that the same measures implemented by the SFPUC for their pipeline project be implemented for this trail project to avoid and minimize for indirect effects to CCR and CBR. These measures are listed below.

Avoidance, Minimization and Compensation Measures for CCR and CBR:

1) The project applicant shall consult with the USFWS and CDFW through the Section 7 process for the 404 permit from the USACOE, and obtain all necessary approvals for protected species.

2) A contractor education program shall be developed, with specific information for all construction personnel working in the vicinity of potential habitat for special-status shorebirds.
3) No more than 90 days before land-clearing operations begin, a qualified ornithologist shall perform a habitat assessment to determine if suitable nesting habitat for any of these species is present within 100 feet of construction limits, including all access and haul routes, and to map their locations. If no suitable nesting habitat is found, no further actions would be warranted.
4) If suitable breeding habitat lies within 100 feet of the limits of operations, no more than 30 days before land-clearing operations begin, the ornithologist shall complete focused surveys to determine whether special-status shorebirds have occupied that habitat. The surveys shall focus on the breeding season, which extends from February 1 to August 31 for California clapper rail, and from March 15 to July 15 for California black rail. If no special-status shorebirds are present, construction may proceed with no adverse effect and no further actions warranted.
5) If special-status shorebirds are present, the project applicant shall consult with the USFWS and CDFW regarding the implementation of appropriate protective measures. Measures shall generally include establishing a "no-work" buffer zone within 100 feet of active occupied nests. All buffer zones will be clearly designated on construction drawings and delineated in the field by orange construction fencing or a similar visual barrier to equipment operators and personnel. The buffer zone barrier shall be monitored and maintained until the end of the breeding season and as approved by the qualified biologist.
6) The project applicant shall consult with the USFWS and CDFW regarding any encroachment of construction activity within 100 feet of occupied nests. Encroachment may be allowed in some circumstances with nest monitoring and restrictions on the type of operations (i.e., limits on noise, distance to the nest). Restrictions would not apply for construction activities within 100 feet of suitable habitat from October 1 through January 31.

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Appendix A
Wetland Evaluation, December 2014

Figure A-1. Approximate Extent of Wetland on Cal Trans Property, near University Avenue, December 2014

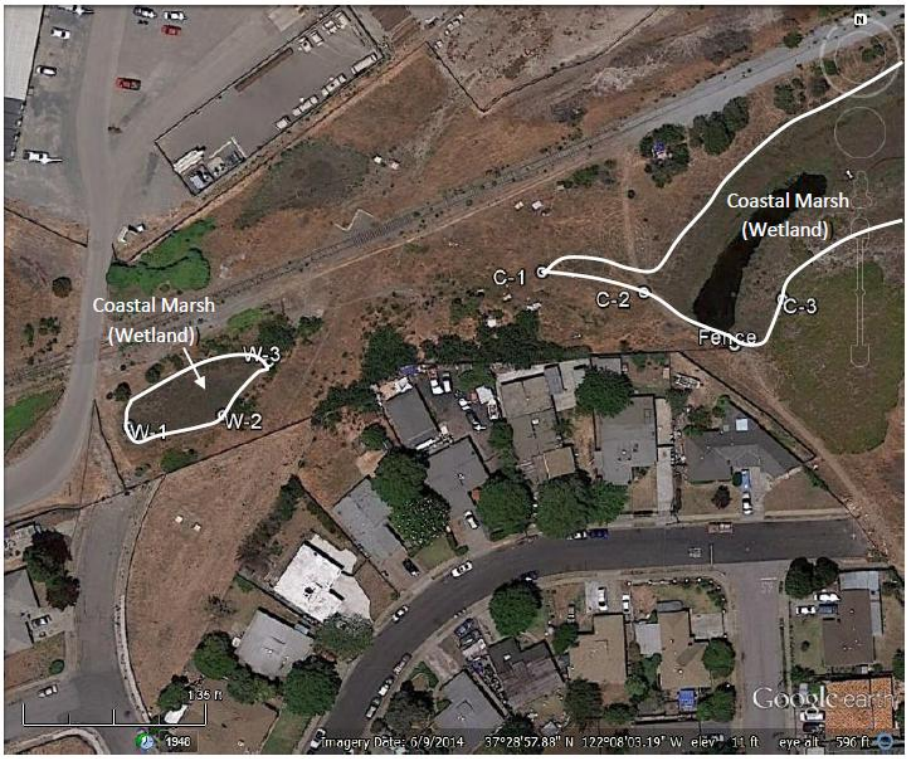

Figure A-2. Approximate Extent of Wetland in Central Area of SFPUC Property, December 2014

Appendix B:

Cultural Resources Report

holman & ASSOCIATES
Archaeological Consultants
"SINCE THE BEGINNING"
3615 FOLSOM ST. SAN FRANCISCO, CALIFORNIA 94110 415/550-7286

Julie Mier
David J. Powers & Associates
1871 the Alameda
San Jose, Ca 95126

May 13, 2011

Dear Ms. Mier:

RE: CULTURAL RESOURCES RESEARCH FOR THE PROPOSED BAY TRAIL AT RAVENSWOOD PROJECT, EAST PALO ALTO, SAN MATEO COUNTY, CALIFORNIA

At your request I have completed a cultural resources study of the above referenced project area located on the northern edge of East Palo Alto in San Mateo County. The purpose of the study was to review existing documents for information regarding known or suspected cultural resources in and around the project area and to visually inspect the general area where the trail will be constructed in order to comment on the potential for impacts to resources through trail construction. No surficial evidence of archaeological deposits was discovered. This report summarizes my findings to date.

PROJECT DESCRIPTION

The proposed project consists of the construction of a trail from university Avenue to the existing Bay Trail in the Ravenswood Preserve. While the actual alignment of the trail is not now known, it will extend through the existing SFPUC property and the Midpeninsula Regional Open Space District property to connect with the existing Bay Trail.

ARCHIVAL RESEARCH

An archaeological literature review was conducted by this author in person at the Northwest Information Center (NWIC) on May 2, 2011 (NWIC file no. 10-1076) to obtain reports of archaeological surveys in and around the project area, and records of historic and prehistoric sites in and around the project area. In addition two area studies which in some way cover the proposed project area were reviewed: the first is the cultural resources section of the Bay Division Pipeline Reliability Upgrade Project, which covered a discussion of cultural resources in or near the route of the Hetch Hetchy water line. The second is a study of a park conversion project done by the City of East Palo Alto at Cooley Landing, south of the current project area. These two studies, which provide valuable overviews of cultural resources for the

area, will be discussed first.

COOLEY LANDING

In 2007 the archaeological firm Past Forward was contracted to provide a cultural resources inventory of the proposed 8.5 acre park planned for the Cooley Landing project area. While no prehistoric cultural resources were found inside the park borders, this report contains a lengthy section by Mark Hylkema which outlines the Native American use of the East Palo Alto area over the past 6000 years. Although Cooley Landing itself was not considered to be archaeologically sensitive, Mr. Hylkema's study did provide a general discussion of settlement patterns of the area, discussing the nearby prehistoric site Sma-77 (University Village) and others farther away to illustrate the pattern of Native American land use over the past several thousand years. No prehistoric cultural resources were reported inside the proposed Bay Trail project area, but Mr. Hylkema's study did provide some speculation regarding potentially buried resources now covered by rising bay water levels.

SFPUC STUDY

This study is more general in nature, covering the 21 mile section of the existing right of way of the Bay Division Pipelines 1 and 2, as well as specific areas outside of the right of way which could have been affected by the project. Brief descriptions of two archaeological sites nearest their project and the proposed Bay Trail project, Sma-77 and 235 were given. A survey of the project areas, which include portions of the proposed Bay Trail project was conducted in 2005. While no new archaeological resources were reported inside the Bay Trail general vicinity, the study did speculate on the potential for the discovery of additional unrecorded deposits:

> "In addition to the known sites described above, other undiscovered prehistoric deposits may lie beneath the ground surface. The proposed Project alignment passes through several environmental settings occupied by Native Americans in prehistoric times. These settings include the flat alluvial fans surrounding the South Bay near creeks, sloughs, former willow stands, and former tidal marshes."
>
> "If early prehistoric sites exist, they would be buried in the sediments of the San Francisco Bay or in the surrounding marshlands. The Bay is a relatively recent phenomenon, only reaching its current aerial extent around 6,000 years ago as sea levels rose during the Holocene, which began around 12,000 years ago. Prior to that, the ocean shoreline was located further to the west and what is now the Bay was floodplain." (SFPUC 4.6-27).

In fact, early prehistoric settlements could have existed just south of the proposed project area, in the vicinity of the now channelized San Francisquito Creek, which forms the border of San Mateo and Santa Clara Counties. The 1899 15' Palo Alto U.S.G.S. map shows Cooley

Landing as a dry spit of land extending into the tidal sloughs to the north, east and south of it.

The archaeological literature review conducted for this report did not reveal any additional recorded archaeological sites inside the general project vicinity, nor any additional archaeological surveys of the project area. Archaeological site records for the two nearest sites, Sma-77 and 235 were obtained. Both these sites are located approximately a quarter mile away from the proposed project area: Sma-77 has largely been destroyed by construction, while the actual borders of Sma-235 remain somewhat problematic; this site may still exist undisturbed in some areas.

DESCRIPTION OF FIELD INSPECTION

A visual inspection of the probable routes of the trail was conducted by this author on May 9, 2011 in the company of the SFPUC environmental specialist Tony Jones, who guided this author to the most likely routes the connecting path from University Avenue to the existing trail will take. The easiest route would be to follow the existing roadway into the project area, where it would then branch out to the southeast, following the fence line which separates the SFPUC property from the existing housing to the south. The trail would then extend into open space property, and at some point would extend over the tidal marshes to connect with the existing trail north of the power transmission lines.

FINDINGS/RECOMMENDATIONS

In summary, only a fragment of the SFPUC property which may be used for the trail connector was visually surveyed. The general area where the trail connectors could be built is in fact tidal marsh lands; those dry portions of the study area (running from University Avenue into the open space property) appear to also have been tidal marsh until they were filled in the mid 20th century to build the housing found there.

It is the opinion of this author that the entire area proposed for the Bay Trail connector was in fact tidal marsh well into the mid 20th century. Those prehistoric archaeological sites nearest to the area, Sma-77 and 235, probably represent the nearest examples of settlements occupied over a two to three thousand year period, ending in the late 18th century. Additional archaeological resources have been found farther inland in East Palo Alto, centering along the former riparian zone associated with San Francisquito Creek, but extending into the oak woodlands farther away from it as well.

The proposed Bay Trail property probably was too wet to have supported any type of settlement over the past 3000 years. If cultural resources existed there in the past, they would date back to the period 4-6000 years ago when the bay began to rise. The riparian corridor of the creek, the ideal settlement location, would have extended a considerable distance to the north, passing through the SFPUC property in the process. Currently there is a deep excavation underway just north of the proposed Bay Trail area, which extends into and through former

possible living surfaces. According to Mr. Jones, no buried archaeological resources have been reported from this excavation.

Construction of the Bay Trail anywhere inside the SFPUC property should have no effect on buried prehistoric archaeological resources, as long as work is restricted to the portions of the property already filled on historically, or in those areas which are still at the original bay marsh elevations. Any prehistoric archaeological deposits in these areas would be deep enough to be protected from grading and placement of fill to achieve necessary elevations to connect with the existing Bay Trail alignment. This report does not recommend mechanical subsurface testing to search for buried archaeological resources *unless* trail construction would require deep excavation.

Sincerely,

Miley Paul Holman
Holman & Associates

REFERENCES CITED

Baxter, Scott, Rebecca Allen and Mark Hylkema
2007 Cooley Landing Cultural Resource Inventory and Assessment. Prepared for the City of East Palo Alto.

SFPUC
n.d. Cultural Resources discussion of the Bay Division Pipeline Reliability Upgrade project.

BAY TRAIL AT RAVENSWOOD
EAST PALO ALTO, SAN MATEO COUNTY, CALIFORNIA

PALO ALTO AND MOUNTAIN VIEW U.S.G.S. MAPS