

Half Moon Bay  
Corporation Yard Upgrade Project  
Draft Initial Study/  
Mitigated Negative Declaration

JANUARY 2022

PREPARED FOR  
**City of Half Moon Bay**

PREPARED BY  
**SWCA Environmental Consultants**





**HALF MOON BAY  
CORPORATION YARD UPGRADE PROJECT  
DRAFT INITIAL STUDY/  
MITIGATED NEGATIVE DECLARATION**

Prepared for

**City of Half Moon Bay**  
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Half Moon Bay, California 94019  
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Prepared by

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SWCA Project No. 67708

City Project No. PDP-21-053

January 2022



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## **Acronyms and Abbreviations**

2020 LCLUP	Local Coastal Land Use Plan adopted in 2020
AB	Assembly Bill
AMMP	archeological monitoring and mitigation plan
APN	Assessor's Parcel Number
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
BRR	Biological Resources Report
BSA	biological survey area
CAL FIRE	California Department of Forestry and Fire Protection
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCC	California Coastal Commission
CCR	California Code of Regulations
CCWD	Coastside County Water District
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CFPD	Coastside Fire Protection District
City	City of Half Moon Bay
CNDDB	California Natural Diversity Database
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
Coastal Trail	Half Moon Bay Coastal Trail
County	County of San Mateo
CRHR	California Register of Historical Resources
CUSD	Cabrillo Unified School District
CY	cubic yards
DPS	Distinct Population Segment
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources

ESHA	Environmentally Sensitive Habitat Area
GHG	greenhouse gas
GIP	Green Infrastructure Plan
IS/MND	Initial Study/Mitigated Negative Declaration
LCLUP	Local Coastal Land Use Plan adopted in 2020
LID	Low Impact Development
LOS	level of service
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MRZ	Mineral Resource Zone
NAHC	Native American Heritage Commission
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHWM	ordinary high-water mark
PERP	portable engine registration program
PG&E	Pacific Gas and Electric Company
PM <sub>10</sub>	particulate matter, 10 microns or less
PM <sub>2.5</sub>	particulate matter, 2.5 microns or less
POST	Peninsula Open Space Trust
PRC	Public Resources Code
project	Half Moon Bay Corporation Yard Upgrade Project
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SAM	Sewer Authority Mid-Coastside
SamTrans	San Mateo County Transit District
SFPUC	San Francisco Public Utilities Commission
Sheriff's Department	San Mateo County Sheriff's Department
SLF	sacred lands file
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SR-	State Route
SSC	Species of Special Concern
State	State of California

State Water Board	State Water Resources Control Board
SVP	Society of Vertebrate Paleontology
SWCA	SWCA Environmental Consultants
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
U-R	Urban Reserve
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VHFHSZ	Very High Fire Hazard Severity Zone
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
WUI	wildland urban interface

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**CITY OF HALF MOON BAY**  
**CALIFORNIA ENVIRONMENTAL QUALITY ACT**  
**INITIAL STUDY AND CHECKLIST**

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “potentially significant impact” as indicated by the checklist on the following pages.

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Aesthetics                         | <input type="checkbox"/> Greenhouse Gas Emissions        | <input type="checkbox"/> Public Services                    |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Air Quality                        | <input type="checkbox"/> Hydrology and Water Quality     | <input type="checkbox"/> Transportation                     |
| <input type="checkbox"/> Biological Resources               | <input type="checkbox"/> Land Use and Planning           | <input type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Mineral Resources               | <input type="checkbox"/> Utilities and Service Systems      |
| <input type="checkbox"/> Energy                             | <input type="checkbox"/> Noise                           | <input type="checkbox"/> Wildfire                           |
| <input type="checkbox"/> Geology and Soils                  | <input type="checkbox"/> Population and Housing          | <input type="checkbox"/> Mandatory Findings of Significance |

**DETERMINATION** (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

*Todd J Seeley*  
Todd J Seeley (Jan 14, 2022 15:46 PST)

Jan 14, 2022

**Signature**

**Date**

**Printed Name**

Todd Seeley, Public Works Superintendent

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**INITIAL STUDY CHECKLIST**

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**BACKGROUND**

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**PROPONENT NAME**

City of Half Moon Bay

**PHONE NUMBER**650-726-8265

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**PROPONENT ADDRESS**

501 Main Street

Half Moon Bay, CA 94019

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**AGENCY REQUIRING CHECKLIST**

City of Half Moon Bay

Public Works Department

**DATE SUBMITTED**January 14, 2022

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**PROPOSAL NAME**Half Moon Bay Corporation Yard Upgrade Project

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## **CHAPTER 1. PROJECT DESCRIPTION**

### **1.1 Introduction**

**Project Title:** Half Moon Bay Corporation Yard Upgrade Project  
Initial Study/Mitigated Negative Declaration

**Lead Agency:** City of Half Moon Bay  
Public Works and Engineering Department  
501 Main Street  
Half Moon Bay, CA 94019

**City Staff Contact:** Todd Seeley, Public Works Superintendent  
Maziar Bozorginia, City Engineer  
Doug Garrison, Senior Planner

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MBozorginia@hmbcity.com  
DGarrison@hmbcity.com

**Project Applicants:** City of Half Moon Bay, Public Works and Engineering Department

The subject of this Initial Study/Mitigated Negative Declaration (IS/MND) under the California Environmental Quality Act (CEQA) is the proposed Half Moon Bay Corporation Yard Upgrade Project (project), which consists of constructing improvements and upgrades to City-owned property at the City's existing Corporation Yard at 880 Stone Pine Road, Half Moon Bay, California. The property currently contains the City's Corporation Yard facilities, as well as several Environmentally Sensitive Areas (ESHAs) and a Conservation Trail Easement. The project would be composed of the following improvements: a new access road would be constructed and the old access road loop abandoned; the approximately 4-acre Corporation Yard area would receive upgrades to the Corporation Yard facilities, including a new fabric tension warehouse (warehouse) building, trash and landscape materials enclosure (materials enclosure), solar field, roadways, parking areas, gates, and fencing; and approximately 12 acres of ESHAs, including a 50-foot riparian buffer area around Pilarcitos Creek and 100-foot wetland buffer area around an existing impoundment, would be protected with the installation of wildlife fencing including wildlife tunnels under the new access road. The remaining approximately 4-acre portion of the parcel (remainder area) would not receive any improvements. The remainder area is not a part of the project but may be developed under a subsequent project. The project is planned to be implemented in two phases. In Phase 1, the site would be cleared, prepared, and graded; water and electrical utilities would be upgraded; wildlife corridor fencing would be installed; a portion of the existing fencing within the 100-foot buffer of the impoundment would be removed; and a new materials enclosure, solar field, roadways, parking areas, gates, and fencing would be constructed. The existing dirt/gravel loop roadway would be removed. Preparation would include demolition of some existing features, including the existing trash bins, and removal of a number of existing metal shipping containers and trailers. Under Phase 2, the project would construct the new warehouse, including the foundation and the following interior improvements to the warehouse: storage rooms, offices, kitchenette, locker room, restrooms/shower rooms, and new electrical and utilities. The project includes installation of new fencing around a portion of the Corporation Yard area to fully enclose it and a security gate at the entrance of the Corporation Yard. Security lighting would be included at the gate and on the warehouse and materials enclosure.

Construction of the Corporation Yard upgrades would commence in April 2022 and take approximately 4 to 6 months to complete over the course of 2 to 3 years. This IS/MND includes a description of the existing environmental setting of the project and the environmental effects that may result from construction and operation of the project.

## **1.2 CEQA Statute and Guidelines**

According to CEQA Statute Section 21064.5:

### **MITIGATED NEGATIVE DECLARATION**

“Mitigated negative declaration” means a negative declaration prepared for a project when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.”

According to California State (State) CEQA Guidelines Article 6. Negative Declaration Process:

### **15070. DECISION TO PREPARE A NEGATIVE OR MITIGATED NEGATIVE DECLARATION**

A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

- (a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
- (b) The initial study identifies potentially significant effects, but:
  - (1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
  - (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

### **15071. CONTENTS**

A Negative Declaration circulated for public review shall include:

- (a) A brief description of the project, including a commonly used name for the project, if any;
- (b) The location of the project, preferably shown on a map, and the name of the project proponent;
- (c) A proposed finding that the project will not have a significant effect on the environment;

- (d) An attached copy of the Initial Study documenting reasons to support the finding;  
and
- (e) Mitigation measures, if any, included in the project to avoid potentially significant effects.

## **1.3 Project Location**

### ***Regional Setting***

The project site is located at the east end of Stone Pine Road between State Route (SR-) 92 and Pilarcitos Creek in the City of Half Moon Bay, San Mateo County, California. San Mateo County is situated along the central coast of California and encompasses approximately 554 square miles (including tidal waters) of the San Francisco Peninsula. The county's western border is on the Pacific Ocean and the eastern border is on the San Francisco Bay shoreline. The county is bounded by the city and county of San Francisco to the north and by Santa Cruz and Santa Clara Counties to the south and southeast, respectively.

The Santa Cruz Mountain Range traverses San Mateo County in a north-south direction, effectively dividing the county into two distinct regions: the Coastside and the Bayside. The Coastside is characterized by coastal terraces transitioning into the gently sloping foothills of the Santa Cruz Mountains. The Bayside is characterized by low-lying mudflats, marshes, artificial fill, and broad, flat alluvial plains. Farther west, this low-lying region transitions into the foothills of the Santa Cruz Mountains, increasing in slope to 15 to 30 percent near its crest. The City is situated along the Coastside, approximately 25 miles south of San Francisco, and encompasses approximately 6.4 square miles of land. It is bordered by the Pacific Ocean to the west, the Santa Cruz Mountains to the east, and unincorporated San Mateo County to the north and south. Figure 1-1 shows the project site location and regional vicinity.

### ***Local Setting***

The project site, at 880 Stone Pine Road, is the site of a former plant nursery at the east end of Stone Pine Road (Figure 1-2) with a total acreage of 20.33 acres. The site is gently sloping from north to south towards Pilarcitos Creek and varies from approximately 65 to 80 feet above mean sea level; the site drains by overland flow to Pilarcitos Creek. The eastern portion of the site is currently used as a Corporation Yard by the City, and the western portion of the site is undeveloped except for a former agricultural water impoundment/wetland (impoundment) in the northwestern corner that was used by the previous agricultural operation, a dirt/gravel loop road for access, and fencing around the entire site (Figure 1-3). The western portion of the site also contains several abandoned structures from the previous agricultural operations. A Pacific Gas and Electric Company (PG&E) transmission line crosses the western portion from north to south.

The project site is bordered by SR-92 to the north, a commercial center (Spanish Town) to the east, Pilarcitos Creek to the south, and townhomes and mobile homes to the west (see Figure 1-2). In the broader area, there are open space areas and agricultural greenhouses southeast of Pilarcitos Creek and southeast, east, and northeast of the project site. To the north, there are open space areas north of SR-92 and the Hilltop Mobile Home Park to the northwest.

The project site is partially visible from SR-92; however, it is partially screened by a row of cypress trees.

The project site is accessed by Main Street and Stone Pine Road via SR-92. Stone Pine Road connects to Main Street approximately 0.25 mile west of the project site.

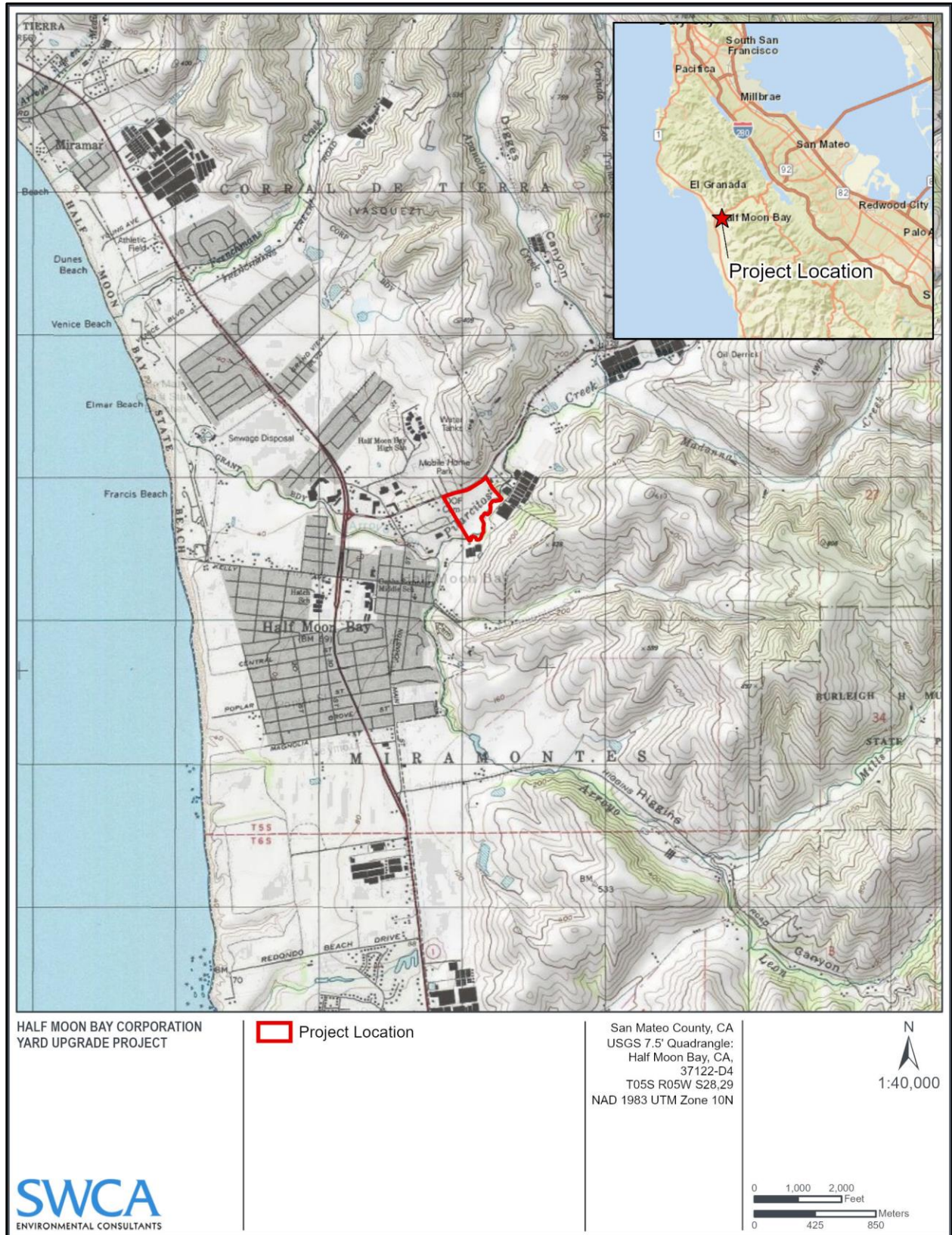


Figure 1-1. Project location map.



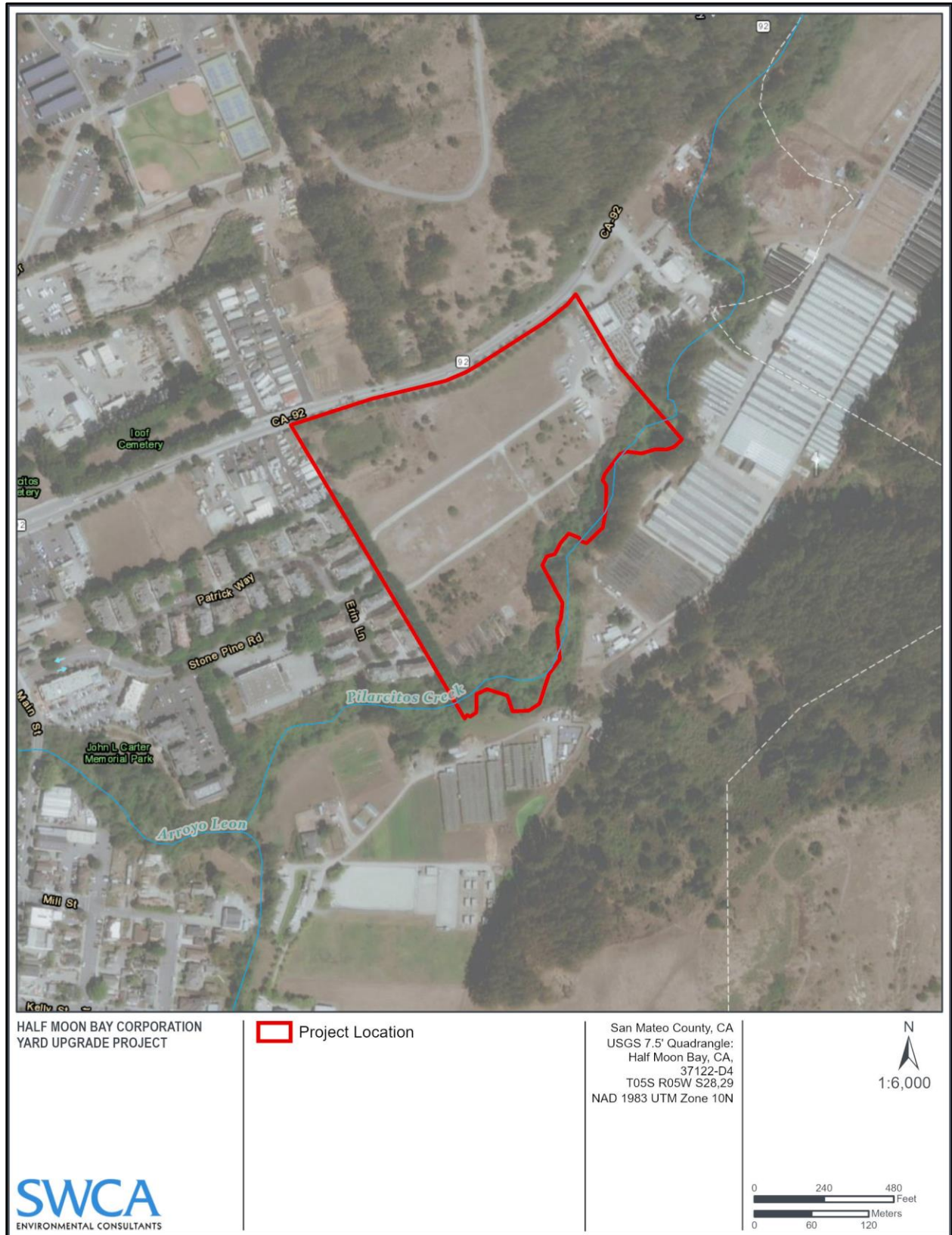
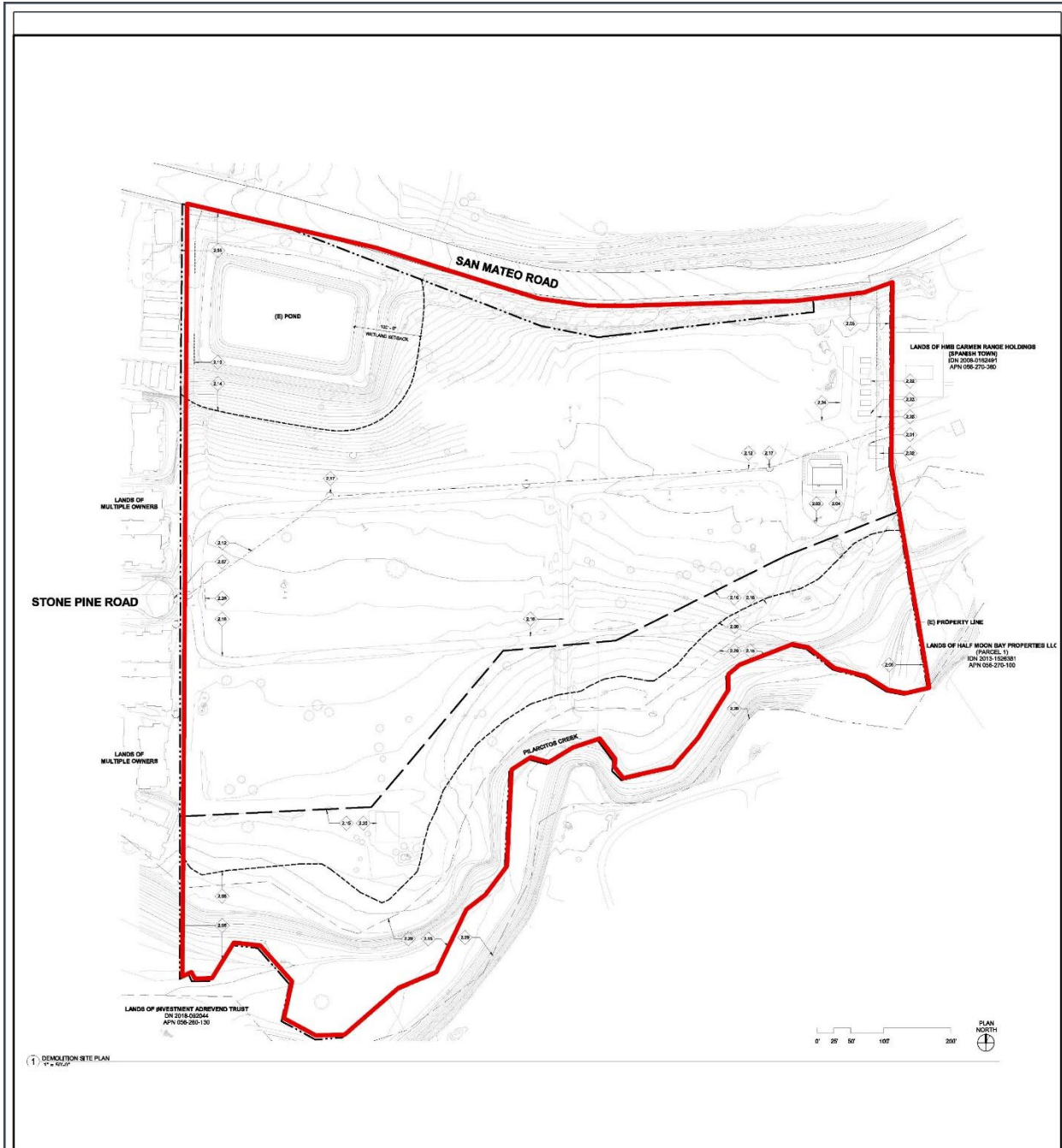


Figure 1-2. Project vicinity map.



HALF MOON BAY CORPORATION  
 YARD UPGRADE PROJECT

Project Area

**KEYNOTES**

2.01	(E) GAS METER, S.C.D.
2.02	(E) BARN
2.03	(E) MAIN ELECTRICAL SERVICE TRANSIT
2.04	(E) HOUSE, DECK, AND GARDEN, N.L.C.
2.05	PROPERTY LINE
2.06	RIPARIAN SETBACK
2.07	(E) SITE ENTRY
2.12	(E) SEWER LINE (10 FEET WIDE), S.C.D.
2.13	COWD EMBANKMENT, S.C.D.
2.14	WETLAND SETBACK
2.15	EX. NO. 13 CONSERVATION TRAIL EMBANKMENT (ON 201-007869), S.C.D.
2.16	(E) DIRT PATH TO BE ABANDONED
2.17	(E) SANITARY SEWER MANHOLE, TYP., S.C.D.
2.20	(E) CONCRETE PAD
2.22	(E) MOBILE TRAILER, TYP. FOR (S)
2.23	(E) STORAGE CONTAINER
2.24	(E) DIRT PATH
2.25	PS&E EMBANKMENT, S.C.D.
2.26	(E) SIGN TO BE REMOVED
2.28	FEMA BASE FLOOD ELEVATION BOUNDARY, S.C.D.



SOURCE: ELS ARCHITECTURE + URBAN DESIGN

Figure 1-3. Existing facilities.



## **Existing Use and Facilities**

Approximately 6 acres of the project site are currently in use as a Corporation Yard and contain a number of existing facilities (see Figure 1-3). The primary function of the Corporation Yard is storage, including vehicle storage, equipment storage, and trash and materials storage and removal. City vehicles are stored on dirt/graveled parking areas and include dump and haul trucks for construction materials, a backend loader, and other small construction equipment. There are four to five solid waste truck trips every week. Existing gravel roads are covered with re-purposed aggregate.

Trash and construction materials are stored in the existing trash and landscaping materials enclosure. Construction materials include, but are not limited to, sand, gravel, asphalt grindings, and base rock that are being transferred between projects. The yard also acts as a laydown yard for City projects.

Equipment and materials are stored in metal shipping containers. Emergency supplies for City and Coastside agencies are stored on-site. There is an existing building (formerly a ranch house) on-site that serves as office space and restroom facilities for staff. Currently eight employees work at the Corporation Yard. Each staff member makes an average of five round trips per day in and out of the yard. Most of these trips are done in City vehicles.

Many of the storage containers were removed prior to the start of the project. Existing facilities and recent and proposed changes are shown on Table 1-1 and in Figure 1-3.

There is an existing water impoundment at the northwest corner of the property. The impoundment is not in current use but provides breeding habitat for California red-legged frog, as does Pilarcitos Creek on the southern border of the project. There is an existing wildlife corridor that could potentially be used by California red-legged frog and San Francisco garter snake that crosses the parcel between the impoundment in the north and Pilarcitos Creek to the south.

**Table 1-1. Existing Facilities and Changes Under the Proposed Project**

<b>Existing Facilities</b>	<b>Current Use</b>	<b>Changes Under Proposed Project</b>
<b><i>Within Corporation Yard Area</i></b>		
Office, deck	Offices and restrooms	Existing structures would remain. No work would be done as part of the project.
Barn/Garage	Recently rebuilt and used for storage	None
Gravel/dirt access road	Existing Corporation Yard access	Loop road would be abandoned and replaced with single paved access road.
Gravel/dirt parking	Parking for employees and City vehicles	Parking areas would be abandoned and replaced with paved lots.
Trash enclosure, partially within 50-foot riparian setback	Storage for trash, recycling, gravel, and other landscaping and construction materials	Enclosure would be demolished and replaced in a different location.
Nineteen metal containers	Material and equipment storage	Containers owned by others have been removed by others. Containers with City supplies would be replaced by the warehouse.

Existing Facilities	Current Use	Changes Under Proposed Project
Wildlife Corridor	Currently open and undefined between impoundment and Pilarcitos Creek	A minimum 50-foot-wide corridor would be fenced from the impoundment leading east, then south, which would fan out near Pilarcitos Creek and be fenced on the north side of the Conservation Trail Easement along the southern boundary. It would include frog/snake tunnels under the access road. Either permanent or temporary wildlife fencing would extend along the north side of the Conservation Trail Easement from the Corporation Yard to the western border as part of this project. Temporary fencing would be replaced with a permanent solution within 1 year.
Trees	Not Applicable (N/A)	Twelve trees would be removed as part of the project. The City would plant 12 trees on the site or elsewhere in the City to replace at a 1-to-1 ratio.
<b>Outside of Corporation Yard Area</b>		
Water impoundment/wetland	No current use	Portions of the existing southern and eastern fencing around the impoundment would be removed and replaced with wildlife fencing 100 feet from the perimeter that would connect to the proposed wildlife corridor. The impoundment would not be impacted.
Wildlife corridor	N/A	Wildlife corridor would be fenced and provided with a frog/snake tunnels under new road. Portions of the existing fencing inside the 100-foot buffer zone on the south and east sides would be removed to allow access to the wildlife corridor.
Gravel loop road	Access	Would be abandoned and replaced with a single paved access road, including frog/snake tunnels under the road.
Fencing around Corporation Yard	Security	The Corporation Yard is currently fenced on the northern and eastern borders. New fencing would be installed on the western and southern borders of the Corporation Yard to complete the security fencing around City facilities. No existing perimeter fencing will be removed.

Source: ELS Architecture + Urban Design (2020)

## 1.4 Land Use and Zoning

The project site is owned by the City and located entirely within the City limits. Under the *City of Half Moon Bay Local Coastal Land Use Plan (LCLUP)*, the project site is designated as Public Facilities and Institutions. This designation provides for “educational, governmental, agricultural, habitat restoration, and institutional uses, such as public schools, public works and utilities yards and maintenance buildings, community gardens, public hospitals, and quasi-public uses including churches, and healthcare uses such as hospitals, clinics, and assisted living facilities.”<sup>1</sup> The LCLUP Land Use Map designates Pilarcitos Creek, adjacent to the project area, as a Greenbelt Stream Corridor.

<sup>1</sup> City of Half Moon Bay. 2020. *City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update*. October 20. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed August 3, 2021.

Under the Half Moon Bay Municipal Code, existing zoning for the entire project site is currently designated Urban Reserve (U-R); however, the intended future zoning of this site is Public/Quasi Public (P-S).<sup>2,3</sup> Permitted uses for the Public/Quasi Public (P-S) districts include fire stations, schools, airports, libraries, churches, civic centers, hospitals, cemeteries, parks, and emergency shelters. Under Zoning Code Section 18.03.040, public and semipublic classifications include Maintenance and Service facilities, defined as: “Facilities providing maintenance and repair services for vehicles and equipment, and materials storage areas for public or quasipublic entities. This classification includes corporation yards, equipment service centers, and similar facilities for public or quasipublic entities.”<sup>4,5</sup> In certifying the LCLUP, the California Coastal Commission (CCC) specifically noted if there were discrepancies between the LCLUP designations and policies and the zoning code, the LCLUP is the ruling document.

The entire City is in the California Coastal Zone. The project is approximately 1.2 miles east of the Pacific Ocean and is within 50 feet of Pilarcitos Creek at its closest point; therefore, it is in the California Coastal Zone. The California Coastal Zone was established by the California Coastal Act of 1976 and is under the jurisdiction of the CCC. Chapter 3 of the California Coastal Act includes provisions that address the impact of development on public services, infrastructure, traffic, the environment, significant resources, and coastal access.

In October 2020, the City adopted a new LCLUP,<sup>6</sup> which was certified by the CCC on April 15, 2021. The LCLUP together with the City’s Zoning Ordinance, Subdivision Ordinance, and zoning map constitute the Local Coastal Program for the City’s coastal zone. A Coastal Development Permit (CDP) is required for construction of the project. The City is the designated agency responsible for CDP approval of projects within the City limits.

The property has been used historically as an agricultural operation. The City began to use the land under a license agreement and subsequently under a lease following purchase of the land by Peninsula Open Space Trust (POST) in 2005. The City has maintained the parcel on behalf of POST (until recent purchase by City) and has used a portion of it as a Corporation Yard. In 2020 the City purchased the property from POST. As part of the purchase agreement, for portions of the land which were not developed for municipal uses, the City agreed to “consider public uses including, but not limited to, passive open space, nature trails, and uses of the land that recognize and are consistent with the property’s legacy use as agricultural land.” In addition, the City agreed to pursue restoration of the portion of Pilarcitos Creek on the parcel and develop a public access trail adjacent to Pilarcitos Creek from the property to Carter Park<sup>7</sup> (refer to Figure 1-3 for the No. 13 Conservation Trail Easement). The proposed project protects these sensitive areas, but solely addresses upgrades to the City’s Corporation Yard. Restoration of Pilarcitos

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<sup>2</sup> City of Half Moon Bay. 2015. Half Moon Bay Zoning Map. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/129/Zoning-Map-PDF>. Accessed August 3, 2021.

<sup>3</sup> City of Half Moon Bay. 2020. *City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update. Appendix A LUP Implementation*. Table A-1. Zoning Map Amendments. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/3765/Appendix-A-LUP-Implementation>. Accessed December 15, 2021.

<sup>4</sup> City of Half Moon Bay. 2020. *Half Moon Bay Municipal Code, Chapter 18.09. Public and Quasi Public Land*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/#1/HalfMoonBay18/HalfMoonBay1809.html#18.09>. Accessed December 15, 2021.

<sup>5</sup> City of Half Moon Bay. 2020. *Half Moon Bay Municipal Code, Chapter 18.03. Use Classifications*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/#1/HalfMoonBay18/HalfMoonBay1803.html#18.03>. Accessed December 15, 2021

<sup>6</sup> City of Half Moon Bay. 2020. *City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update*. October 20. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed August 3, 2021.

<sup>7</sup> City of Half Moon Bay. 2020. 880 Stone Pine Purchase and Sale Agreement between Peninsula Open Space Trust and City of Half Moon Bay.

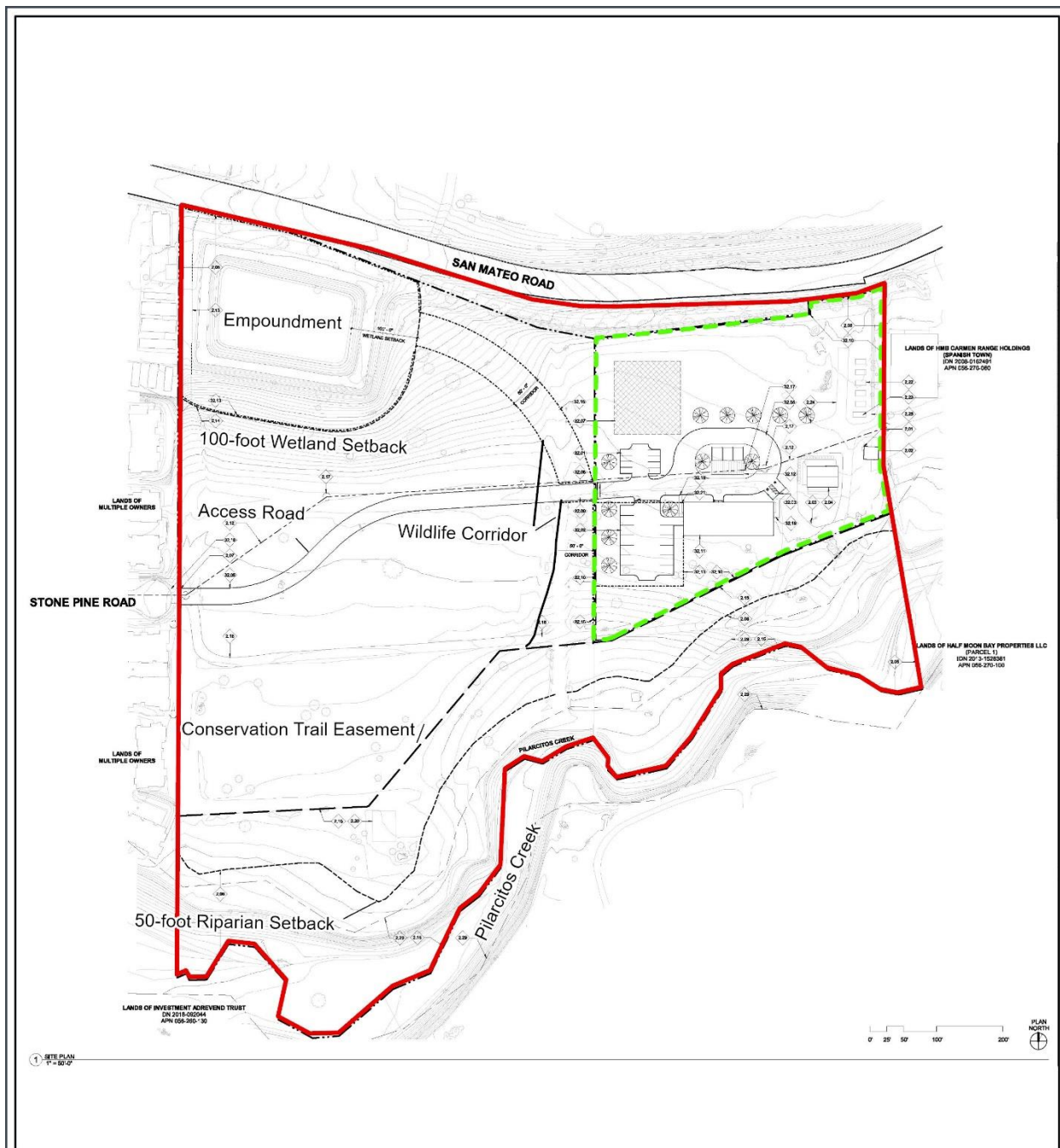
Creek and development of a public trail are not part of the proposed project; however, the City is committed to both restoring portions of Pilarcitos Creek in and adjacent to the boundary of the property and development of a creek-side pedestrian trail.

## **1.5 Proposed Project**

The project would result in the development/redevelopment of approximately 4 acres of the 20.33 acres for use as a City Corporation Yard on the northeast end of the property. Related improvements to the Corporation Yard include a paved access road with frog/toad tunnels under the new access road. Some related improvements would be made to protect the approximately 12 acres of ESHAs on the site. These would include wildlife fencing around the 100-foot buffer for the impoundment, proposed wildlife corridor, and on the north side of the Conservation Trail Easement. Future improvements to the parcel include construction of a pedestrian trail in the Conservation Trail Easement and restoration of the riparian area adjacent to Pilarcitos Creek to the south. The remaining approximately 4 acres of the parcel are not part of the project or proposed to be developed at this time. Improvements would be made to utilities that cross the remainder area (potentially including electrical, water, and sewer lines). The exact locations of the access road and wildlife corridor are still being studied. The road alignment would be located as far to the north as is practicable based on traffic safety, vegetation, avoidance of ESHAs, and landforms. All new utilities will be undergrounded, and the new electrical connection would be undergrounded from the utility pole closest to the existing office (former residence). Proposed improvements are shown in Figures 1-4 and 1-5.

The project is to be developed in two phases. Phase 1 includes construction of the wildlife corridor; clearing, preparation, and grading of the site per the development plans; and development of most of the new facilities. Preparation would include demolition of some existing features, including the existing materials enclosure and portions of the existing fence around the impoundment. Wildlife fencing would be installed. Utilities, including water, sewer, and electrical utilities, would be upgraded. A new roadway and two parking areas, new materials enclosure, and new solar field would be constructed. Under Phase 1, new perimeter fencing with a security gate would be installed on the south and west sides of the Corporation Yard consistent with the defined Corporation Yard boundaries on the development plans. Security lighting would be installed at the gate and on the exterior of the warehouse and materials enclosure.

In addition to road, utility line, and security fencing around the Corporation Yard, the project would add wildlife fencing around the water impoundment and wildlife corridor, designed to guide sensitive species between the water impoundment and Pilarcitos Creek. The wildlife fence would surround a portion of the water impoundment and funnel movement from the impoundment to frog/snake tunnels constructed under the new access road, and then to Pilarcitos Creek. The portion of the existing security fencing around the impoundment on the south and east sides that are within the 100-foot wetland buffer area would be removed, and wildlife fencing would be erected around the impoundment at the 100-foot buffer line or property line, whichever is closer. At the southern end of the wildlife corridor, the wildlife fencing would fan out north of the Conservation Trail Easement and continue on the north side of the Conservation Trail Easement. Temporary wildlife fencing may be installed east of the Corporation Yard. If temporary



HALF MOON BAY CORPORATION  
 YARD UPGRADE PROJECT

- Project Area
- HMB Corporation Yard



SOURCE: ELS ARCHITECTURE + URBAN DESIGN

**Figure 1-4. Proposed project.**

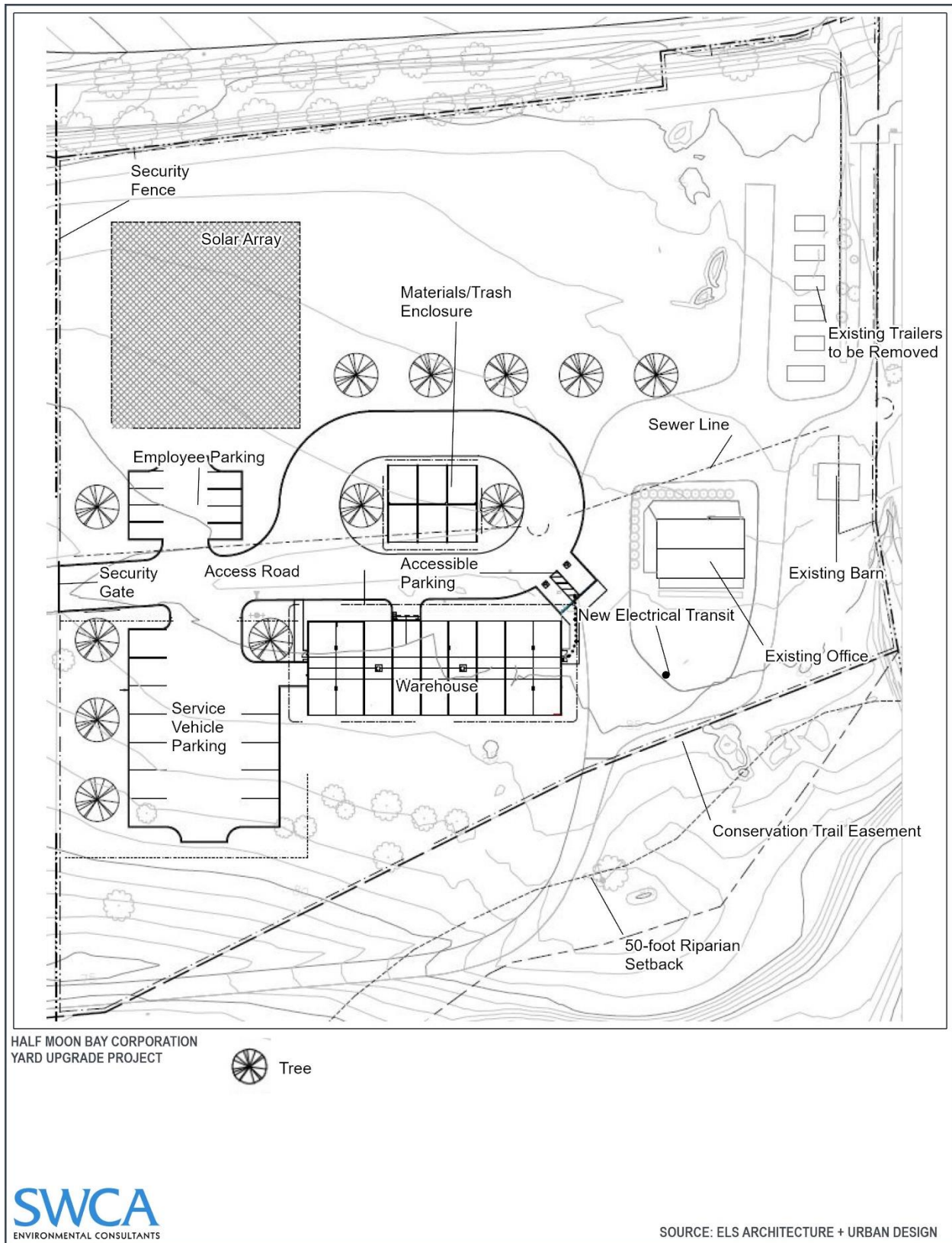


Figure 1-5. Proposed Corporation Yard facilities.

fencing is used, it would be inspected once a week and replaced with a permanent solution within 1 year under a separate project. The wildlife fence would be constructed of chain-link fencing with slats to prevent sensitive species from crossing. The access road would be raised to accommodate four frog/snake tunnels under the road and prevent sensitive species from crossing the road surface. The frog/snake tunnels would be constructed of concrete box culverts. The City would maintain an approximately 10-foot-wide access corridor adjacent to the wildlife corridor to allow access for maintenance.

Under Phase 2, the project would construct the new warehouse with restrooms in the Corporation Yard, including foundation, erection of the warehouse, and installation of fire sprinkler system, and new electrical, water, and sewer utilities. This phase would also include interior improvements to the warehouse, including storage rooms, locker rooms, kitchenette, and restrooms/shower rooms. The proposed project is shown in Figures 1-4 and 1-5.

Potential additional uses of and improvements to the parcel outside the Corporation Yard area could include, but would not be limited to, a trailhead and trail along the No. 13 Conservation Trail Easement, a visitor parking area, and restoration of Pilarcitos Creek. These potential future uses would be conducted under a future project or projects. Potential future improvements to the remainder area, apart from the improvements to utilities, could include, but would not be limited to, an additional potential solar generation field, a community garden, and/or housing. Any improvements to the remainder area would be conducted under a future project or projects.

As the City owns the entirety of the property, no parceling is necessary at this time to implement the project. The City may choose to parcel the property either through a Boundary Line Adjustment or other means provided under the State Subdivision Map Act and in accordance with the Coastal Act.

## **Phase 1**

Phase 1 would include site clearing and preparation; demolition of some existing features; and construction of roads, parking areas, utilities, a materials enclosure, and a solar field. New security fencing would be installed around the south and west sides of the Corporation Yard area, to fully enclose City facilities, with a card-activated gate. Security lighting would be installed at the gate and on the warehouse and material enclosure. Security lighting at the gate may be continuous and would likely be confined to illuminating the keypad for entry. As required by City code, all lighting would be directed downward and shielded to prevent spillover onto neighboring properties. Security lighting will likely be on timers or photocells to turn them on at night. No other nighttime lighting is anticipated.

Specifically, Phase 1 of the project would include the following:

- Removal of existing facilities as described in Table 1-1;
- Grubbing and grading as required for new facilities; construction of an asphalt-paved access road designed to include the frog/snake tunnels under the road; and construction of two accessible parking stalls adjacent to the warehouse. The precise location of the road is being determined and may change slightly from that shown in Figure 1-4;
- Construction of the 50-foot-wide wildlife corridor with wildlife exclusion fencing and 10-foot-wide access paths on either side. The wildlife fence would surround the water impoundment at the 100-foot buffer line or the property line, whichever is closer, and direct movement of sensitive species to frog/snake tunnels under the new access road, prevent sensitive species from crossing the road, and fan out on the north side of the Conservation Easement toward Pilarcitos Creek. The corridor would include four frog/snake tunnels under the access road constructed of four 3-foot-wide by 2-foot-tall concrete box culverts. The road would be elevated to accommodate the frog/snake tunnels;



- Construction of a paved staff parking area with eight parking stalls;
- Construction of a paved service vehicle parking area with 12 parking stalls;
- Construction of a new 11,000-square-foot solar field north of the new parking area with connection to new PG&E service;
- Installation of a new picnic area near the existing on-site office building that was formerly a residence;
- Construction of an approximately 40-foot by 47-foot roofed materials enclosure with six bays, approximately 15 feet in height, that would include a French drain to the existing sanitary sewer that crosses the enclosure footprint, and security lighting;
- Installation of a new electrical service transit and electrical upgrades, to be undergrounded from the utility pole south of the existing offices (former residence);
- Installation of new water service upgrades, including fire hydrants and sprinklers;
- Installation of security fencing around south and west sides of the Corporation Yard, including one automatic rolling gate with keycard entry at the Corporation Yard entrance;
- Installation of drainage improvements that meet the requirements of the *City of Half Moon Bay Green Infrastructure Plan (GIP)*<sup>8</sup> to prevent sediment-laden runoff to Pilarcitos Creek; and
- Protection of the existing No. 13 Conservation Trail Easement and wetland and riparian setbacks.

Some construction equipment, such as a backhoe and haul trucks, is currently stored at the site. During project construction, the existing site, primarily the existing dirt road that runs between the two main roads, would be used to stage equipment. The staging area would be used for equipment storage, materials staging, and parking.

## **MATERIALS ENCLOSURE**

The materials enclosure would include six bays for storage of wood, gravel, sand, compost, trash, and recycling materials. Each bay would be 15 feet by 20 feet and partially enclosed with 5-foot-4-inch-high side walls. The entire structure would be roofed with a metal roof over plywood supported by a metal frame and would be approximately 40 feet by 47 feet and 15 feet in height. The structure would have a continuous French drain to divert runoff to an existing sanitary sewer, which would prevent contaminated drainage from leaving the enclosure.

## **SOLAR FIELD**

The solar power-generating system would include an estimated 80 solar panels, 66 inches by 40 inches in size. They would be mounted in banks of six on angled mounts, with one inverter and interconnection facilities to a new, on-site, PG&E switchboard to support the Corporation Yard. The solar field would provide 100 percent of the electricity required by the Corporation Yard.

The solar field would cover approximately 11,000 square feet. The approximately 80 solar panels would be fixed in a south-facing direction. Each rack would be approximately 10 feet wide. The racking system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. Each rack would have a height up to 8 feet, 4 inches above grade. The minimum clearance from the lower edge of the panel to ground level would be approximately 30 inches.

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<sup>8</sup> City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. September. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1>. Accessed August 6, 2021.



The installation would include one aboveground inverter station, which would collect the generated power in a central location, convert the power to the appropriate voltage, and feed it into the new PG&E main switchboard south of the current office (former residence). The transmission line would run underground from the inverter to the switchboard in a trench approximately 24 to 36 inches in depth.

## **WILDLIFE CORRIDOR**

The wildlife corridor would be 50 feet wide and directed northeast from the water impoundment, then southeast along the new Corporation Yard fence line to the riparian corridor around Pilarcitos Creek. North of the Conservation Trail Easement it would fan out to create a wider entrance. A wildlife fence line would also be added along the northern border of the Conservation Trail Easement, running east to west to funnel any dispersing wildlife into the wildlife corridor from Pilarcitos Creek.

A portion of the security fencing around the current impoundment would be removed. The northern and western fence lines would be expanded to the current edge of the PG&E easement on the northern edge of the property and to the property boundary on the western edge of the property and remain as a 6-foot-tall fence. The eastern and southern fence lines would be expanded to the 100-foot wetland setback and would be composed of 4-foot-tall chain-link wildlife fence. The access gate located in the northeast corner of the fence would remain in place. All wildlife fencing would be installed with aluminum slats or vinyl slats (with wings) to exclude frogs and snakes. Gaps at the ends of the fencing would be covered with slats bolted together. The bottom of the fencing would be buried in the soil to a depth of 2 inches (except at the entrance to the movement corridor on the east side of the fence line. Here, no slats would be installed, and the fencing would leave a gap of 2 inches at the bottom for frogs and snakes to pass).

The wildlife fencing around the movement corridor itself and along the Conservation Trail Easement would be chain-link fencing 4 feet tall. It would also be buried 2 inches at the bottom and covered with aluminum or vinyl slats. Gaps at the ends of the fencing would be covered with slats bolted together. Access gates would be installed on the west side of the fence lines. This fence would also connect on either side of the roadway to prevent frogs and snakes from entering the roadway.

Wildlife fencing along the Conservation Trail Easement may be constructed of a temporary material (such as ERTEC brand or similar material) during construction and for up to 1 year following the completion of construction. The temporary wildlife fencing would be maintained weekly by Corporation Yard staff. After 1 year, the temporary wildlife fencing must be assessed by a qualified biologist; at that time, the temporary fencing would be replaced with a permanent wildlife fence or a timeline for permanent fence installation would be established.

Where the wildlife corridor crosses the new access road, it would cross under via frog/snake tunnels. The access road would be elevated to admit the frog/snake tunnels. The frog/snake tunnels would be composed of four 3-foot-wide and 2-foot-tall concrete box culverts. They would be spaced under the roadway with culverts on the west and east sides flush against the adjacent wildlife fencing, and the remaining two culverts spaced approximately 14 feet from one another. The culvert bases would be at ground level and installed at a 2 percent slope to drain water. Either a trench or raising the roadway would be required to ensure that the culvert bases are properly aligned on the ground level. Whichever method is used, the end result would be to prevent any water from ponding in the culverts for extended periods. The floor of each culvert would contain an inch or so of natural soil (to cover the concrete base). The level of this soil base would be even with the soil level at the entrance and exit of each box culvert.

There would be a 10-foot-wide path on either side of the wildlife corridor, as well as gates in the fence, to provide access for maintenance. It is anticipated that, if feasible, domestic goats would be used to graze the area around the impoundment and the migration corridor on an annual basis for vegetation fuels

management. If goat grazing is not feasible, vegetation management may be accomplished by using hand tools with a biological monitor present.

## **Phase 2**

Phase 2 includes the construction of the warehouse, which would be a 50-foot by 135-foot tension fabric building, approximately 23 feet 9 inches in height. The warehouse would be erected on a new concrete pad foundation with underslab piping for electrical and future plumbing. A fabric tension structure is made up of a flexible membrane material supported by cables and structural steel members. The structure would have a corrugated steel frame. The exterior would be tan in color (Figure 1-6). Following construction of the structure, the City will complete interior improvements to the structure. The warehouse would include two accessible restrooms with showers, one locker room, one kitchenette, two 220-square-foot offices, two 300-square-foot storage rooms, and related mechanical/plumbing/electrical systems for the interior. All interior rooms would be “stick-built” drywall on metal stud framing within the warehouse. The remainder of the floor space would be used as a workshop and for equipment and materials storage. Security lighting would be added to the outside of the warehouse.

The project would result in approximately 54,260 square feet (approximately 1.25 acres) of new impervious surface area, consisting of new pavement for the access road and parking areas, concrete foundations for the warehouse, and the materials enclosure. The project would be required to comply with the City’s GIP to control runoff. Green infrastructure is anticipated to include flow-through, planter-style stormwater channels that would filter contaminants from the stormwater before it enters Pilarcitos Creek.

## **Construction**

Project construction would involve grubbing and grading new construction areas, trenching for new utilities (primarily electrical and water), paving access road and parking areas, pouring concrete foundations, constructing two new structures, constructing the new solar field, and installing GIP stormwater facilities.

The existing ground surface would be grubbed and graded and would require excavation of approximately 1,475 cubic yards (CY) of cut and 3,810 CY of fill. No fill would be imported. The project would require importation of approximately 1,025 CY of aggregate base, 675 CY of asphalt for roadways and parking areas, and 160 CY of concrete for curbs, gutters, and foundations. Excavation depths would not exceed 5 feet. The deepest excavation would occur at the planter located at the Stone Pine entrance. The exported materials would be hauled off for disposal or recycling. The project would generate approximately 59 round-trip haul truck trips (assuming a 10-CY dump truck), or 74 round-trip truck trips, assuming an 8-CY dump truck.

Construction would likely commence in April 2022 and would take approximately 4 to 6 months to complete and may occur over 2 to 3 years. Phase 1 would likely be started in April 2022 and completed by October 15, 2022. Phase 2 may not occur for 2 or 3 years, based on budget considerations. Construction would occur during dry weather only. Construction hours would be limited to 8:00 a.m. to 5:00 p.m., Monday through Friday. Although the City allows construction from 8:00 a.m. to 6:00 p.m. on Saturdays and 10:00 a.m. to 6:00 p.m. on Sundays, weekend construction is not anticipated and would require permission from the City.<sup>9</sup>

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<sup>9</sup> City of Half Moon Bay. 2021. Noise Restrictions Webpage. Available at: <https://www.half-moon-bay.ca.us/210/Noise-Restrictions>. Accessed June 3, 2021.

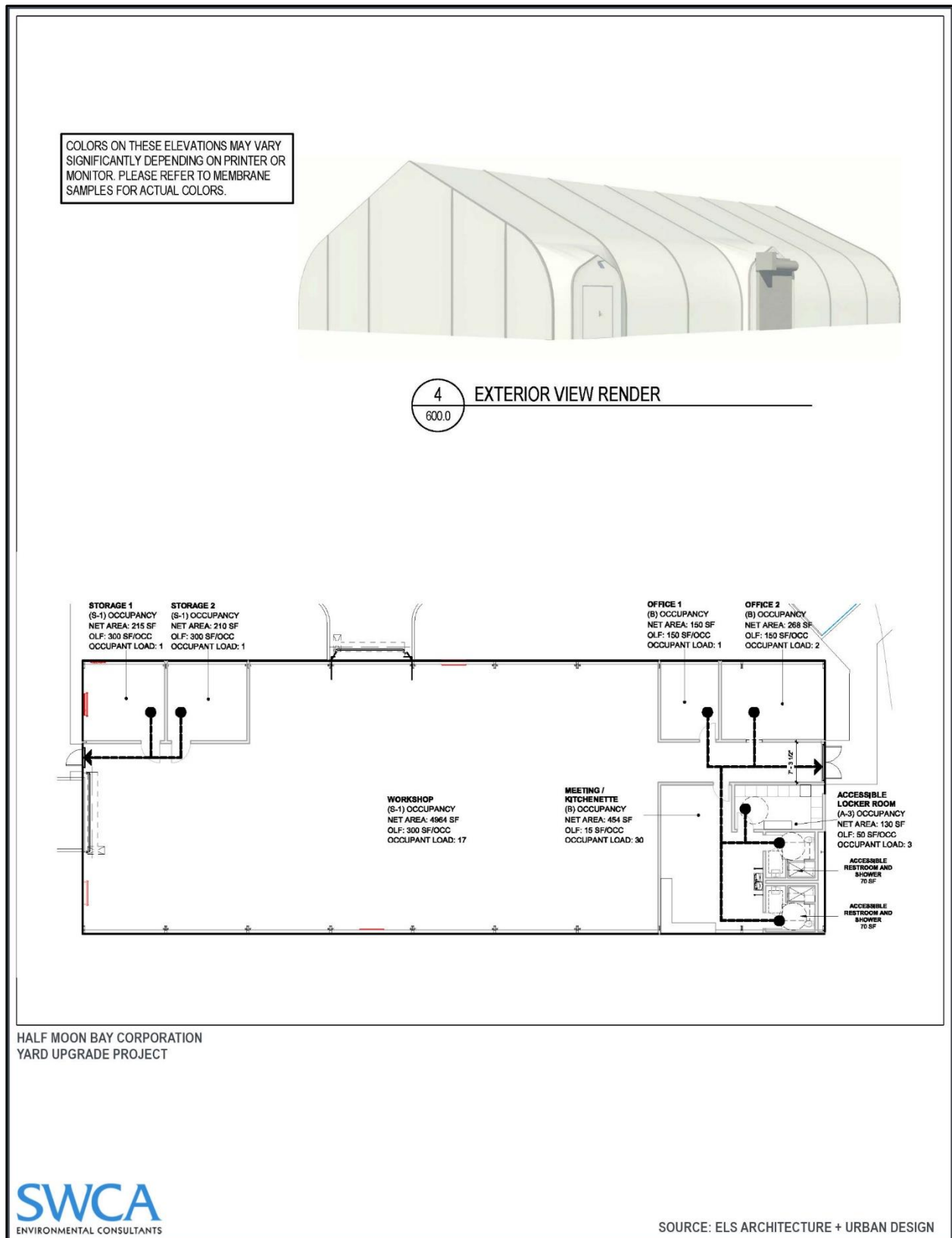


Figure 1-6. Tension fabric warehouse design.

Access for construction would be from Stone Pine Road. Construction staging and materials staging would occur on-site. All work would comply with the Regional Water Quality Control Board (RWQCB) Best Management Practices (BMPs). Construction equipment would likely include the following:

- milling machine
- paver
- asphalt trucks
- hauling trucks (10-CY dump truck)
- cement mixer
- scraper
- bulldozer
- backhoe
- boom truck
- forklift
- rubber-tired loader
- motor grader
- steel drum roller
- crane or scissor lift
- water truck
- hand tools, such as saws and hammers

Construction of the solar field would involve the following activities:

- Site preparation and clearing/grading
- Underground work (trenching)
- Solar array installation
- Inverter installation
- Trench and connection to existing new PG&E switchboard
- Testing and commissioning
- Site cleanup and restoration

Grading for solar field construction is expected to be minor because the site is fairly level. However, grading would be necessary for construction of the racking system and inverter pads. Scrapers, motor graders, water trucks, dozers, and compaction equipment are expected to be used for grading.

The photovoltaic (PV) modules would be offloaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed. Construction equipment would be delivered to the site on “low-bed” trucks unless the equipment can be driven to the site (e.g., boom trucks).

Vegetation on-site would be modified only where necessary and would be removed where structures are to be constructed (if necessary). Water use during construction would be minimal and would be required primarily for dust control and concrete mixing.

## **Operation**

Operations and personnel at the Corporation Yard would not change as a result of the project with the exception of the solar field. With the addition of electrical energy from the solar field, the Corporation Yard would have a net zero carbon footprint. Operation and maintenance of the solar field would require periodic maintenance and washing of the solar panels approximately twice a year. Washing the panels would require approximately 2,000 gallons of water per year.

## **1.6 Requested Action and Required Permits**

This IS/MND provides environmental information and analysis in compliance with CEQA, which is necessary for City decision makers to be able to adequately consider the effects of the project. The City, as the CEQA lead agency, has approval authority and responsibility for considering the environmental effects of the project as a whole. The CCC would serve as a Responsible Agency under CEQA. The City is responsible for authorizing and approving the project. The IS/MND, in conjunction with other project documents as necessary, would be used for the CDP discretionary approval.

The project is requesting approval of a Coastal Development Permit (CDP).

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## CHAPTER 2. ENVIRONMENTAL CHECKLIST AND RESPONSES

### 2.1 Aesthetics

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Except as provided in Public Resources Code Section 21099, would the project:</i>				
(a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Environmental Evaluation

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

A scenic vista generally provides focal views of objects, settings, or features of visual interest, or panoramic views of large geographic areas of scenic quality, from a fixed vantage point or linear corridor, such as a roadway or trail. A significant impact would occur if a project introduced incompatible scenic elements within a field of view containing a scenic vista or substantially block views of an existing scenic vista.

The project site is located on the south side of SR-92 as it enters the City and is visible from SR-92's eastern gateway to the City where westbound SR-92 enters City limits. SR-92 within City limits is identified as part of the Town Boulevard Corridor in the City's 2020 LCLUP Scenic and Visual Resources Element, and provides a sweeping view of the ocean and town upon entering City limits. Eastbound, SR-92 provides scenic views of the hillsides and ridges of the coastal mountains.<sup>10</sup> Looking south from SR-92 provides views of the Pilarcitos Creek riparian corridor that are often blocked by trees or commercial buildings. The landscape of the project site slopes downward from the road, so the project site is lower than the roadway by 10 to 20 feet and is heavily screened by a row of cypress trees on the project site's northern border. In addition, the new building would be sited as far away from the road as possible to reduce visual massing from the highway and would use neutral colors to further lower its visual impact. Therefore, improvements to the project site would not block scenic views of the coastal hills or the town. There are also interrupted views of Pilarcitos Creek's riparian corridor from SR-92.

<sup>10</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 9 Scenic and Visual Resources*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 10, 2021.

These views are partially blocked by the row of cypress trees fronting the highway and currently include Corporation Yard facilities, including a number of temporary structures, in the foreground. Although the warehouse will have a larger footprint, it will replace a number of temporary storage containers and the overall view of Pilarcitos Creek with Corporation Yard facilities in the foreground would be similar to existing conditions (Figures 2-1 and 2-2). Therefore, this impact would be less than significant.

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

The project is adjacent to SR-92, which is an eligible scenic highway.<sup>11</sup> In addition, the project is approximately 0.43 mile east of SR-1, which is an eligible scenic highway as it passes through the City.<sup>12</sup> The 2020 LCLUP identifies the need to protect “significant” views available along SR-92, including the “sweeping view of the ocean and town upon entering city limits.”<sup>13</sup> The project is located on the south side of SR-92 as it enters City limits. The project involves improvements to the existing Corporation Yard including the construction of a new warehouse, materials enclosure, solar field, roadway, and parking lots. As discussed in Section 2.1.a, the existing Corporation Yard is largely screened by a row of cypress trees on its northern border and is lower than the roadway by 10 to 20 feet. The project would remove 12 trees on the Corporation Yard site in the footprints of the new warehouse, materials enclosure, fence line, access road, and parking areas. The trees would be replaced at a 1-to-1 ratio on the project site. No trees in the riparian corridor would be removed. There are no rock outcroppings, or historic buildings that are listed or eligible for listing (see Section 2.5, Cultural Resources), on or adjacent to the project site. Therefore, impacts to scenic resources within a scenic highway would be less than significant.

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

The project site is located in an urbanized area on the south side of SR-92 as it enters the City, but is lower than the roadway by 10 to 20 feet and is heavily screened by a row of cypress trees on the project site’s northern border. The project site is visible from SR-92’s eastern gateway to the City where westbound 92 enters City limits. SR-92 within City limits is identified as part of the Town Boulevard Corridor in the City’s 2020 LCLUP Scenic and Visual Resources Element, and provides a sweeping view of the ocean and town upon entering City limits.<sup>14</sup>

A visual resource analysis is not required by CEQA; however, visual simulations have been prepared for this project to inform the planning process and to ensure conformity with LCP policies and zoning requirements (see Figures 2-1 and 2-2).

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<sup>11</sup> An eligible state scenic highway is one identified in Section 263 of the Streets and Highways Code and may be nominated by local governments. To be converted to a designated state scenic highway, the local government agency must develop a Corridor Protection Program and submit it to Caltrans.

<sup>12</sup> California Department of Transportation (Caltrans). 2021. Scenic Highways Webpage. Available at: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed September 9, 2021.

<sup>13</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 9 Scenic and Visual Resources*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 10, 2021.

<sup>14</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 9 Scenic and Visual Resources*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 10, 2021.



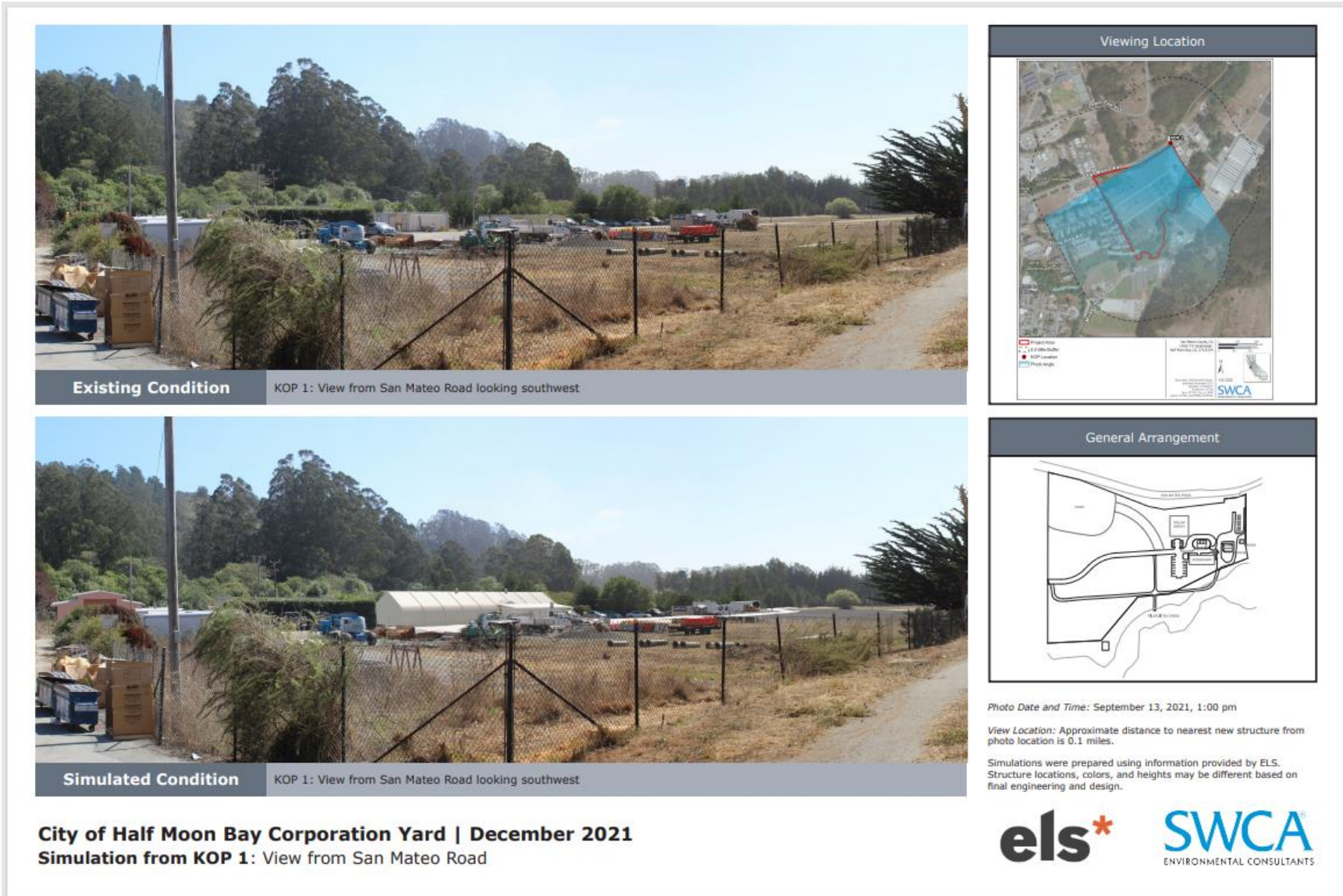


Figure 2-1. Visual simulation from Highway 92 looking southwest.

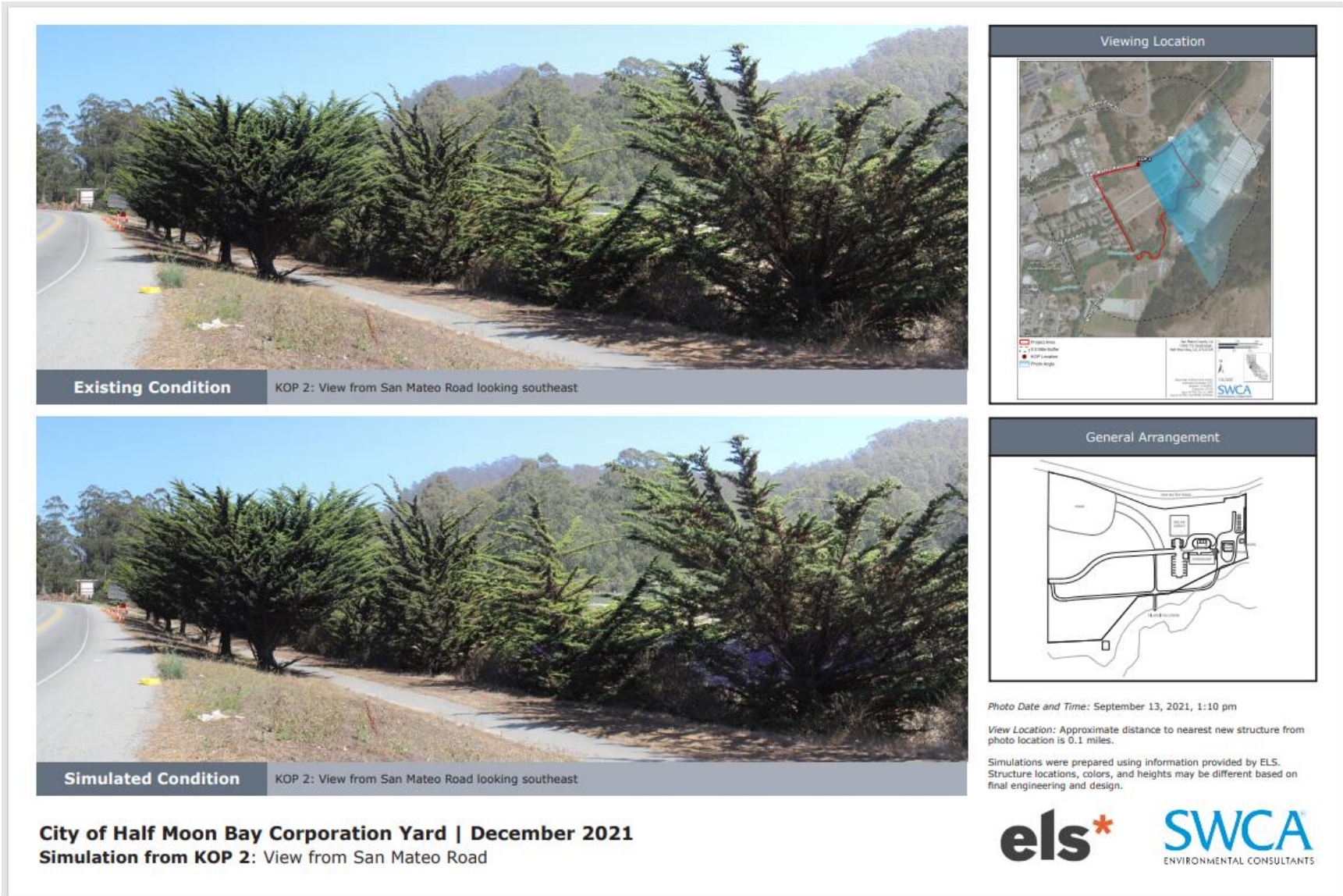


Figure 2-2. Visual simulation from Highway 92 looking southeast



The project’s consistency with LCLUP policies is shown in Table 2.1-1.

**Table 2.1-1. Project Consistency with LCLUP Policies.**

LCLUP Policy	Consistency
<p><u>Policy 9-5. Visual Impact Evaluation.</u> Where any development is proposed within a scenic and visual resource area, including as designated on Figure 9-1, a site-specific visual impact evaluation shall be required and may include visual simulations, story poles, and/or other means of visual assessment as appropriate based on the type and location of development.</p>	<p><u>Consistent.</u> Visual simulations were prepared for this project and used to inform the City’s planning. This section analyzes the visual impacts of the proposed project. The project will be required to install story poles at least 10 days prior to the public hearing.</p>
<p><u>Policy 9-10. Fences, Walls and Landscaping.</u> Ensure that fences, walls, and landscaping shall not block public views of or from scenic and visual resource areas including along scenic corridors, at parks and beaches, and other scenic public viewing areas through height restrictions and required landscape maintenance.</p>	<p><u>Consistent.</u> The project site currently has chain-link security fence between the site and SR-92. The project would include some chain-link fencing farther from and downslope of SR-92, which would not block views of scenic resources. The new warehouse would replace existing smaller temporary structures, is situated downslope and as far from SR-92 as possible while avoiding ESHAs, and includes neutral earth-tone colors and well-designed exterior lighting that reduces glare and offensive spillover. The new facilities would be clustered with existing buildings, including commercial buildings on the adjacent Spanishtown property.</p>
<p><u>Policy 9-11. Landscape Screening.</u> Prioritize avoidance of development impacts to scenic and visual resource areas through site planning and design alternatives over landscape screening. Landscape screening as mitigation of visual impacts shall not substitute for project alternatives including re-siting or reducing the height or bulk of structures, but may be used where appropriate to soften any unavoidable visual impacts of new development. Where permitted, landscape screening shall be comprised of native and drought tolerant species and shall be maintained such that scenic views are not blocked at maturity.</p>	<p><u>Consistent.</u> The project has been designed to minimize impacts to scenic resources while upgrading Corporation Yard facilities. The site is currently partially visually screened from view from SR-92 by a row of cypress trees. The new warehouse would replace existing smaller temporary structures, is situated downslope and as far from SR-92 as possible while avoiding ESHAs, and includes neutral earth-tone colors and well-designed exterior lighting that reduces glare and offensive spillover. The new facilities would be clustered with existing buildings, including commercial and industrial buildings on the adjacent Spanishtown property. No additional screening is anticipated.</p>
<p><u>9-12. Town Boulevard Scenic Corridor.</u> Require that new development in close proximity to or easily visible from the Town Boulevard scenic corridor, including Highways 1 and 92:</p> <ol style="list-style-type: none"> <li>Protects views of visual resource areas as seen from the Town Boulevard, including views to the ocean, upland slopes (i.e. minimizes intrusions into the ridgeline), and the historic Johnston House;</li> <li>Incorporates design standards such as screening of commercial parking areas and landscaping provisions; and</li> <li>Is visually compatible with the surrounding land and development.</li> </ol>	<p><u>Consistent.</u> The project is downslope from SR-92 and would upgrade existing Corporation Yard facilities. Surrounding development includes a commercial center to the east and mobile home park to the west. The Corporation Yard is largely screened from view by an existing row of cypress trees and is visually compatible with existing development.</p>
<p><u>Policy 9-30. Dark Night Skies.</u> Protect dark night skies as part of Half Moon Bay’s scenic and visual character by preventing light pollution from development. Avoid impacts from exterior lighting on dark night skies, sensitive habitat areas, and agricultural operations by:</p> <ol style="list-style-type: none"> <li>Limiting exterior lighting to low-intensity fixtures that are shielded, down-cast, and concealed so that the light source is not directly visible from public viewing areas, with the exception of traffic lights, navigational lights, and other similar safety lighting</li> </ol>	<p><u>Consistent.</u> The project would comply with all lighting requirements of the municipal code. Lighting would consist of low-intensity fixtures that are shielded, down-cast, and concealed to the extent feasible. from public viewing areas and sensitive habitat. The new facilities would be in the existing Corporation Yard facility and adjacent to a commercial area; therefore, the project would result in minimal changes in exterior lighting levels. All lighting would be downward facing, shielded, and designed to reduce glare and spillover and therefore would not impact adjacent sensitive habitat.</p>

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

The project would upgrade the existing Corporation Yard facilities and would include installation of building-mounted security lighting on the warehouse and materials enclosure, as well as pole-mounted security lighting at the new gate. All new lighting would be downward-facing and shielded, and would meet all requirements of the City municipal code. The new facilities would be constructed of non-glare materials, including asphalt, tension fabric, concrete block, and metal roof. The metal roof of the material storage and waste enclosure would have a non-glare coating. Solar panels would be oriented in a southwest direction to maximize efficiency, which would orient them away from SR-92 and minimize glare, and screened by existing trees from adjacent residential development. The project would meet all requirements of the City’s municipal code; therefore, the project would not add a substantial new source of light or glare, and operational impacts would be less than significant.

Construction impacts would be short-term and temporary, lasting approximately 4 to 6 months. Nighttime construction is prohibited under City regulations; therefore, nighttime construction would not occur and temporary construction lighting would not be required. Therefore, no construction impacts related to light and glare would occur.

## 2.2 Agriculture and Forestry Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</i>				
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Environmental Evaluation**

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

A significant impact may occur if a project were to result in the conversion of state-designated agricultural land from agricultural use to another non-agricultural use. The California Department of Conservation (CDOC) Division of Land Protection lists Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under the general category of “Important Farmland” in California.

The project area contains no land that is designated by the CDOC as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The northern portion of the parcel is designated Other Land, and the southern portion of the parcel is designated Grazing Land.<sup>15</sup> Therefore, the project would have no impact on the conversion of CDOC-designated farmland to non-agricultural uses.

Although the project site does not fall under the CDOC definition of Prime Farmland, a portion of the Project site does fall under the four-part Coastal Act definition (Section 30113) for Prime agricultural land.<sup>16</sup>

However, the Coastal Act specifies that:

*“Conversions of agricultural land to non-agricultural uses around the periphery of urban areas may only occur where the viability of agriculture is severely limited or where conversion would complete a logical boundary and contribute to a stable urban limit. The conversion of other lands that are suitable for agricultural use is prohibited, unless (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or appropriately concentrate development.”<sup>17</sup>*

Agricultural uses were deemed non-viable by the previous owner and discontinued on the Project site prior to the LCLUP update. In 2020, the LCLUP changed the land use designation from Urban Reserve (U-R) to Public Facilities and Institutions, and recommended the zoning designation be changed from Public/Quasi-Public (P-S) (see discussion in Section 2.11. Land Use and Planning). The LCLUP was certified by the Coastal Commission in April 2021. Since the agricultural viability of the land has been shown to be severely limited, and the land use designation for the parcel was changed under the 2020 LCLUP, the Project would not conflict with the Coastal Act policies regarding conversion of agricultural lands and this impact would be less than significant.

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<sup>15</sup> California Department of Conservation (CDOC). 2019. *San Mateo County Important Farmland Map. 2018*. Available at: <https://www.conservation.ca.gov/dlrp/fmmp/Pages/SanMateo.aspx>. Accessed September 8, 2021.

<sup>16</sup> City of Half Moon Bay. 2021. *Local Coastal Land Use plan. Chapter 4. Agriculture*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/3759/Chapter-4-Agriculture>. Accessed January 14, 2022

<sup>17</sup> California Coastal Commission. 2017. *Agriculture in the Coastal Zone: An Informational Guide for the Permitting of Agricultural Development*. Available at: <https://documents.coastal.ca.gov/assets/agriculture/Informational%20Guide%20for%20Agricultural%20Development%202017.pdf>. Accessed January 14, 2022

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

A significant impact may occur if a project were to result in the conversion of land zoned for agricultural use or under a Williamson Act contract from agricultural use to non-agricultural use. The Williamson Act of 1965 allows local governments to enter into agreements with local landowners with the purpose of trying to limit specific parcels of land to agricultural or other related open space use.

The project site is not zoned for agricultural use and is not subject to a Williamson Act contract. The current zoning is Urban Reserve (U-R); however, the parcel zoning is expected to be changed to Public/Quasi Public (P-S) in order to line up with the LCLUP designation of Public Facilities and Institutions. The nearest agricultural operations are in greenhouses southeast of Pilarcitos Creek, approximately 250 feet east of the project. The nearest land under Williamson Act contract is approximately 0.7 mile northeast of the project.<sup>18</sup> Activities in the Corporation Yard would be buffered from these areas by the riparian corridor and would have no impact on surrounding agricultural operations. Therefore, no impact with respect to land zoned for agricultural use or under a Williamson Act Contract would occur.

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

“Forest land” is defined as 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.” “Timberland” is defined as land “which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.” Timberland zoned for Timber Production is defined as land that “is devoted to and used for growing and harvesting timber.”

There is no land zoned for timber production within the City limits, although there are several Christmas tree farms in San Mateo County sited in Planned Agriculture Districts. Twelve trees would be removed as part of the project. Some of these may be scattered small cypress trees on the project site. In addition, there is a row of cypress trees planted adjacent to SR-92, which would not be impacted by the project. Although portions of the project site could meet the definition of forest land, these are within the riparian areas and would not be impacted by the project. The project site is not zoned for management of forest or timberland resources; therefore, the project would not conflict with zoning for, or cause the rezoning of, forest land, timberland, or timberland zoned Timberland Production. No impact would occur.

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

The project site is surrounded by undeveloped lands and urban uses and is not located on forest land (as discussed in Section 2.2.c). Although portions of the project site could meet the definition of forest land, these are within the riparian areas and would not be impacted by the project. No impact related to the loss of forest land or conversion of forest land would occur.

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<sup>18</sup> County of San Mateo. 2021. San Mateo County GIS Open Data, Williamson Act Parcels. Available at: <https://data.smcgov.org/Housing-Development/Williamson-Act-Parcels/sq6e-7j5j>. Accessed September 8, 2021.

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

A significant impact may occur if a project involves other changes to the existing environment that could result in the conversion of farmland to another non-agricultural use or conversion of forest land to non-forest use. As described in Section 2.2.b, the project site is not currently zoned for agricultural use and is expected to be rezoned for Public/Quasi Public (P-S) use. It is surrounded by undeveloped lands, agricultural greenhouses, SR-92, and urban uses. Neither the project site nor the surrounding parcels are utilized for agricultural uses or forest land. The closest land in agricultural production is located approximately 250 feet east of the project area and would be buffered from the project site by Pilarcitos Creek. The riparian area surrounding Pilarcitos Creek may meet the definition of forest land; however, the riparian corridor would not be impacted by the project. With the exception of the riparian corridor, there is no forest land in the vicinity of the project site. No impacts related to conversion of farmland to a non-agricultural use or conversion of forest land to non-forest use would occur.

## 2.3 Air Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:</i>				
(a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

**a. Would the project conflict with or obstruct implementation of the applicable air quality plan?**

The screening criteria established by the Bay Area Air Quality Management District (BAAQMD) have been relied upon to make the following significance determinations.

The project is located within the San Francisco Bay Area Air Basin under the jurisdiction of the BAAQMD.<sup>19</sup> The BAAQMD regulates air pollutant emissions, enforces regulations, administers permits governing stationary sources, inspects stationary sources, monitors air quality and meteorological conditions, and assists local governments in addressing climate change.

<sup>19</sup> Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed September 8, 2021.

The BAAQMD 2017 Clean Air Plan<sup>20</sup> was adopted in April 2017 and updated the 2010 Clean Air Plan. The 2017 Clean Air Plan includes strategies to reduce emissions of ozone precursors and emissions of fine particulate matter and Toxic Air Contaminants (TAC). The plan also provides a framework for long-term planning efforts to reduce greenhouse gas (GHG) emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

The BAAQMD has set thresholds of significance for criteria air pollutants and precursors and GHGs for construction-related impacts. If daily average emissions of construction-related criteria air pollutants or precursors would exceed any applicable Threshold of Significance listed in 2017 Air Quality CEQA Guidelines, a project may have a significant impact under CEQA.<sup>21</sup> A project may have a significant impact where project-related emissions would exceed federal, state, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation.

The project would generate temporary emissions from the use of construction vehicles and equipment. The BAAQMD 2017 Clean Air Plan contains various control measures to reduce stationary and mobile sources of air pollutants. Transportation Control Measure TR22 applies to Construction, Freight and Farming Equipment and encourages early deployment of electric, Tier 3, and Tier 4 off-road engines to be used in construction, freight, and farming equipment.<sup>22</sup> The 2017 Clean Air Plan also addresses construction impacts and specifies construction emission control measures to be implemented. Additionally, the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) have established standards for off-road equipment. CARB regulations for off-road diesel equipment include the following:

- limits on vehicle idling to not more than 5 minutes unless necessary, and a requirement for a written idling policy for medium and large fleets;
- a requirement for all vehicles to be reported to CARB in the online reporting system (DOORS) and labeled with Equipment Identification Numbers;
- a requirement for fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (VDECS) (i.e., exhaust retrofits); and
- a ban on adding Tier 2 engines to fleets beginning January 1, 2018, for large and medium fleets, and January 1, 2023, for small fleets.<sup>23</sup>

CARB regulations also include a portable engine registration program (PERP) for portable diesel engines 50 horsepower or greater. Under this program, owners or operators of portable engines and other types of equipment register their units under PERP in order to operate their equipment throughout California.

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<sup>20</sup> BAAQMD. 2017. *2017 Clean Air Plan*. Available at: <http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a-proposed-final-cap-vol-1-pdf.pdf?la=en>. Accessed September 8, 2021.

<sup>21</sup> BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed September 8, 2021.

<sup>22</sup> The USEPA and CARB established emission standards for new engines found in off-road equipment. There are four tiers of emission standards, which become increasingly more stringent the higher the tier. Tier 3 and 4 emission standards are met through advanced engine design with no or minimal use of exhaust gas after combustion

<sup>23</sup> California Air Resources Board (CARB). 2021. *Off-Road Diesel Regulation Webpage*. Available at: <https://www.arb.ca.gov/msprog/offroadzone/landing/offroad.htm>. Accessed September 8, 2021.



PERP requires phase-out of lower engine emission tiers and replacement with Tier 3 or Tier 4 standards on an established schedule.<sup>24</sup>

To reduce emissions, project applicants are required to comply with USEPA and CARB standards for off-road equipment, including DOORS and PERP registration requirements. Compliance with USEPA and CARB standards would reduce emissions of ozone precursors and particulate matter. As a result, the project would not conflict with or obstruct compliance with Transportation Control Measure TR22 or any other control measure provided in the *2017 Clean Air Plan*, or conflict with or obstruct the implementation of the *2017 Clean Air Plan*.

The BAAQMD’s *CEQA Air Quality Guidelines* establishes screening criteria for analyzing projects.<sup>25</sup> If a project meets the screening criteria, then its air quality impacts may be considered less than significant. The project would improve the existing Corporation Yard, including addition of a solar field. These facilities would most closely fall under the “General light industry” categories in the BAAQMD’s *CEQA Air Quality Guidelines*. The screening criteria related to General light industry are shown in Table 2.3-1, below. It is clear that the project is small in scope when compared to the screening criteria for light industry projects. Screening size for construction-related air quality impacts includes 259,000 square feet, 11 acres and/or 549 employees for light industry development. The area of construction disturbance would cover approximately 1.78 acres, which is relatively small and would not exceed any of the construction emissions thresholds in Table 2.3-1. Standard conditions of approval for all CDPs in the City include all air quality BMPs and dust control measures required by the BAAQMD, which would further reduce these less-than-significant construction impacts.

**Table 2.3-1. Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes for General Light Industry**

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size	Project Size
General light industry	541,000 square feet (NO <sub>x</sub> )	121,000 square feet	259,000 square feet (NO <sub>x</sub> )	77,325 square feet
General light industry	72 acres (NO <sub>x</sub> )	—	11 acres (NO <sub>x</sub> )	1.78 acres
General light industry	1,249 employees (NO <sub>x</sub> )	—	540 employees (NO <sub>x</sub> )	8 existing employees (Corporation Yard only – no change anticipated)

Note: NO<sub>x</sub> = nitrogen oxides

Source: Bay Area Air Quality Management District 2010<sup>26</sup>

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<sup>24</sup> California Air Resources Board (CARB). 2018. *Statewide Portable Equipment Registration Program (PERP). 2018 Regulatory and Program Changes*. Available at: [https://ww2.arb.ca.gov/sites/default/files/2018-11/perp\\_booklet\\_2018\\_1\\_0.pdf](https://ww2.arb.ca.gov/sites/default/files/2018-11/perp_booklet_2018_1_0.pdf). Accessed September 8, 2021.

<sup>25</sup> Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed September 8, 2021.

<sup>26</sup> BAAQMD. 2010. *Bay Area Air Quality Management District CEQA Guidelines*. Table 3-1. Available at: [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/draft\\_baaqmd\\_ceqa\\_guidelines\\_may\\_2010\\_final.pdf](https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/draft_baaqmd_ceqa_guidelines_may_2010_final.pdf). Accessed September 8, 2021.

The project would comply with all measures required by the BAAQMD's *CEQA Air Quality Guidelines*.<sup>27</sup> These measures shall be included in the construction contract and plans and would be the responsibility of the construction contractor. They include the following:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- 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 Toxic Control Measures in California Code of Regulations [CCR] Title 13, Section 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- All roadways, driveways, and sidewalks shall be paved as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- 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 BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

The scope and intensity of operational activities at the Corporation Yard would not change as a result of the project. However, abandoning the existing unpaved roads and construction of the proposed paved access road would reduce dust emissions. Electricity generated by the solar panels would be fed into the electrical grid via the PG&E transmission line that crosses the project site, to offset electrical use at the Corporation Yard and, potentially, Carter Park. Therefore, no operational impacts would occur.

***b. Would the project expose sensitive receptors to substantial pollutant concentrations?***

The BAAQMD *CEQA Air Quality Guidelines* recommend assessment of risks and hazards on sensitive receptors within 1,000 feet of the project. Existing sensitive receptors within this radius include residences on Patrick Way, Erin Lane, and at Hilltop Mobile Home Park. Potential future receptors that are not part of this project could include recreational users of a community garden and the Pilarcitos Creek trail alignment. The feasibility of developing an affordable housing project on a portion of the property is also being explored. If any of these uses are approved in the future, it is anticipated that this would be after Corporation Yard construction is completed. Consequently, they would not be affected by construction emissions. Construction of the project would generate emissions that could expose existing sensitive receptors to substantial pollutant concentrations.

However, as discussed under Section 2.3.a, the project would not generate criteria air pollutants in excess of threshold levels. The project would upgrade infrastructure (driveways, parking lots, and electrical) and construct new facilities for the Half Moon Bay Corporation Yard. The project would be under the 11-acre

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<sup>27</sup> BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed September 8, 2021.

screening threshold for construction emissions; therefore, the project would not produce construction emissions that would exceed the BAAQMD's recommended localized standards of significance for reactive organic gases (ROG), nitrogen oxides (NO<sub>x</sub>), particulate matter with a diameter of 10 micrometers or less (PM<sub>10</sub>), or particulate matter with a diameter of 2.5 micrometers or less (PM<sub>2.5</sub>) during the construction phase.

Nearby residential receptors could be exposed to localized pollutants from construction of the project. Given the relatively small size of the project and the temporary nature of construction, the project would not generate substantial levels of air emissions. Sensitive receptors within 1,000 feet of the project would not be adversely affected based on implementation of standard City conditions of approval, requiring implementation of BAAQMD air quality BMPs. Since the project size is relatively small, potential construction impacts to sensitive receptors would be less than significant.

Operations at the Corporation Yard would not change as a result of the project; therefore, there would be no increase in operational emissions. Abandoning the existing unpaved roads and replacing them with the proposed paved access road would reduce future fugitive dust emissions. Operational emissions from the solar field would result from activities consisting of routine inspection and maintenance. Off-site operational emissions related to electrical use would be reduced as a result of the solar field, which is expected to supply all electricity required by the Corporation Yard. Therefore, operational impacts related to air quality would be less than significant.

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

According to the BAAQMD's *CEQA Air Quality Guidelines*:

"No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant."<sup>28</sup>

A project would have a cumulative significant impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius (or beyond where appropriate) from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the following:

- An excess cancer risk level of more than 100 in one million or a chronic hazard index greater than 10 for TACs; or
- 0.8 micrograms per cubic meter annual average PM<sub>2.5</sub>.<sup>29</sup>

Under the BAAQMD's *CEQA Air Quality Guidelines*, if a project meets the screening criteria in Table 2.3-1, then the project would not result in the generation of criteria air pollutants and/or precursors that exceed the Thresholds of Significance.

The construction-related screening size for light industrial facilities is 11 acres, or 259,000 square feet. The project is relatively small (the Corporation Yard is approximately 4 acres and would include 54,260

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<sup>28</sup> BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed September 9, 2021.

<sup>29</sup> BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed September 9, 2021.

square feet of new facilities, including roads and parking lots) and falls under the screening threshold for generating significant construction emissions. Existing activities and operational emissions at the Corporation Yard would not change as a result of the project. Operational emissions from the solar field would result from routine inspection and maintenance activities. Abandoning the existing unpaved roads and construction of the proposed paved access road would reduce fugitive dust emissions. Off-site operational emissions related to electrical use would be reduced as a result of the solar field, which is expected to supply all electricity required by the Corporation Yard. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant, and this impact would be less than significant.

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

Odors are usually associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. The project would upgrade the existing Corporation Yard facilities and add a solar field. The project would not include any land uses typically associated with unpleasant odors and local nuisances (e.g., rendering facilities, dry cleaners). Therefore, no impact would occur.

## 2.4 Biological Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Environmental Evaluation**

The analysis of biological resources is based on the following documents: *Biological Resources Report for 880 Stone Pine Road Project, Half Moon Bay, California* (BRR), completed by H.T. Harvey & Associates (June 2021); *Preliminary Delineation of Wetlands and Other Waters/Delineation of Coastal Zone Wetlands Within California Coastal Commission Jurisdiction*, completed by H.T. Harvey (October 2020); *BRR Peer Review*, conducted by SWCA (November 2021); and the *Draft Frog and Snake Tunnel Design Proposal*, supplied by Dr. Mark Jennings (November 2021). All reports are included in Appendix B.

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

A significant impact would occur if a project were to remove or modify habitat for any species identified or designated as a candidate, sensitive, or special-status species in regional or local plans, policies, or regulations, or by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW).

The BRR was conducted for Parcels 1 and 2 and included the parcel areas (see Figure 1-2) plus a 200-foot buffer area surrounding the project. The BRR was circulated to federal and state agencies, including USFWS, U.S. Army Corps and Engineers (USACE), CDFW, San Francisco Regional Water Quality Control Board (RWQCB), and CCC. Minor comments were received from the CCC and addressed. No other agency comments were received. The 2020 LCLUP was certified by the CCC on April 15, 2021.<sup>30</sup> This discussion includes information from the BRR as well as updated information from the 2020 LCLUP.

The project would upgrade facilities at the existing Corporation Yard, including construction of a new access road and parking areas, warehouse, materials enclosure, solar field, and security and wildlife fencing. The project includes creation of a fenced wildlife corridor and removal of some of the existing security fencing around the impoundment. The project is located on a marine terrace approximately 60 to 85 feet above mean sea level, and approximately 1.2 miles east of the Pacific Ocean. The project site is relatively flat, but drains generally to the southwest toward Pilarcitos Creek and the Pacific Ocean. The project site is bounded by Pilarcitos Creek on the south, which is a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains, through Pilarcitos Canyon, and discharges into the Pacific Ocean. The project is the site of a former plant nursery, and there is some evidence of the former nursery still present at the site, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete-lined ditches, and irrigation pumps and pipes. A man-made impoundment is located in the northwest corner of the project site. Water was previously pumped into this impoundment from Pilarcitos Creek and used for nursery operations. The impoundment continues to hold water and extensive emergent vegetation and has been classified as a perennial freshwater marsh by H. T. Harvey in the BRR.

The project site consists of a mix of ruderal grassland, and developed or landscaped areas. Riparian woodland, perennial freshwater marsh, and aquatic riverine habitats are adjacent to the project area, but not located within the project area. No work would occur in these habitats. Habitats within and adjacent to the project area are described in more detail below.

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<sup>30</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 10, 2021.

- **Developed/Landscaped Habitat.** Developed/landscaped habitat includes areas where permanent structures and/or pavement have been placed along with planted landscaping. Such landscaping includes native Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) trees. These trees have been installed as part of a landscape plan and do not naturally occur on-site and are therefore not considered sensitive species.
- **Ruderal.** The most abundant species in the ruderal grassland are wild oat (*Avena* sp.), Italian rye grass (*Festuca perennis*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*), and Chile tarweed (*Madia sativa*). Additionally, there were scattered small patches of other facultative hydrophytic vegetation, including curly dock (*Rumex crispus*), poison hemlock (*Conium maculatum*), and bird's foot trefoil (*Lotus corniculatus*), all occurring in upland habitat positions and intermixed with upland grassland species. Similarly, scattered arroyo willow (*Salix lasiolepis*) and red alder (*Alnus rubra*) occur in the grassland in upland areas, and likely were able to establish due to irrigation, as no indicators of hydric soils or wetland hydrology occur in these areas.
- **Riparian Woodland.** Riparian woodland habitat is found adjacent to the south side of the project site along Pilarcitos Creek and around the perennial freshwater marsh habitat in the impoundment in the northwest corner. Trees observed in the riparian woodland habitat include arroyo willow, red willow (*Salix laevigata*), red alder, and blue gum eucalyptus (*Eucalyptus globulus*). The understory includes Himalayan blackberry (*Rubus armeniacus*), cape ivy (*Delairea odorata*), poison hemlock, common horsetail (*Equisetum arvense*), French broom (*Genista monspessulana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), bristly ox-tongue, pampas grass (*Cortaderia jubata*), and Italian rye grass.
- **Aquatic Riverine.** Pilarcitos Creek flows outside the project area through the dense riparian woodland and provides unvegetated aquatic habitat.
- **Perennial Freshwater Marsh.** The dominant vegetation in the impoundment is freshwater marsh consisting of common cattail (*Typha latifolia*). Other species in the freshwater marsh vegetation include duckweed (*Lemna* sp.), rabbitsfoot grass (*Polypogon monspeliensis*), and tall flatsedge (*Cyperus eragrostis*).

Desktop review identified 73 special-status plant species and 34 special-status wildlife species within 5 miles of the survey area (see Appendix B for details of the desktop review). Only one of the special-status plant species was determined to have a moderate to high potential to occur in the freshwater marsh habitat and dense riparian woodland—harlequin lotus (*Hosackia gracilis*; California Rare Plant Rank 4.2). This species is not anticipated to be impacted by the project because it was not observed during the field-level reconnaissance survey conducted in June 2018 at the height of its bloom period. In addition, the freshwater marsh vegetation in the impoundment and riparian woodland vegetation would not be impacted by the project.

Of the special-status wildlife species identified within 5 miles of the project area, there are eight species that could potentially occur in or adjacent to the project area: white-tailed kite (*Elanus leucurus*; State–Fully Protected), Central California coast steelhead (*Oncorhynchus mykiss irideus*; Federal–Threatened [T]), California red-legged frog (*Rana draytonii*; Federal–T, State–Species of Special Concern [SSC]), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*; Federal–Endangered [E], State–E), western pond turtle (*Actinemys marmorata*; Federal–None, State–SSC), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*; Federal–None, State–SSC), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*; Federal–None, State–SSC), and yellow warbler (*Setophaga petechia*; Federal–None, State–SSC). Of these species, three species—the California red-legged frog, San Francisco garter snake, and white-tailed kite—have the potential to be present within the project site. The remaining five, if present, are expected to be located in Pilarcitos Creek, riparian habitat, or freshwater marsh habitat

in the impoundment adjacent to the project. Additional detail on the eight special-status species with potential to occur within or adjacent to the project area is provided below.

### **CALIFORNIA RED-LEGGED FROG**

California red-legged frog, a federally threatened species and CDFW SSC, occurs in various habitat types depending on its life cycle stage. Breeding areas include aquatic habitats, such as lagoons, streams, and natural and human-made ponds. The species prefers aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to approximately 2 feet, and the presence of emergent vegetation (e.g., cattails and bulrush). During periods of wet weather, some individuals may make overland dispersals through adjacent upland habitats of distances up to 1 mile. Upland habitats, including small mammal burrows and woody debris, can also be used as refuge during the summer if water is scarce or unavailable. California red-legged frogs typically travel between sites and are unaffected by topography and vegetation types during migration. Dispersal habitat makes it possible for California red-legged frogs to locate new breeding and non-breeding sites, and is crucial for conservation of the species. California red-legged frog adults and larvae have been found in a breeding pond in the vicinity of Pilarcitos Creek about 1.3 miles northwest of the project area as recently as 2016; California red-legged frog adults were observed in Pilarcitos Creek about 0.5 mile west of the project area in 2006; and California red-legged frog adults and juveniles were observed in the perennial freshwater marsh habitat in the impoundment within the project area in 2005. Due to the presence of juvenile frogs, it is likely there was active breeding in the perennial freshwater marsh habitat in the impoundment during the 2005 observation. Since 2005, no recent species-specific surveys of this species have been conducted in the project area.

Based on the above information and the number of known California red-legged frog occurrences on-site and within 2 miles of the project area, there is a high potential for California red-legged frog to occur in the project area during the wet season (October 15 to May 31) and the dry season (June 1 to October 15). If present, California red-legged frog could forage and disperse in Pilarcitos Creek and forage, disperse, or breed in the perennial freshwater marsh habitat in the impoundment. In addition, California red-legged frog could disperse through the upland habitat in the project area to move between the Pilarcitos Creek and the impoundment. California red-legged frogs are most likely to disperse in the spring and early summer when juveniles would leave the impoundment, and adults may move to and from the perennial freshwater marsh habitat in the impoundment during warm winter rains. During the wet season, frogs may be found in upland areas around the creek and impoundment. This species is generally considered to forage up to 300 feet from aquatic habitat.

The project includes installation of wildlife fencing and a wildlife corridor which would include frog/snake tunnels under the access road to prevent impacts to California red-legged frog. The wildlife fencing would be installed around the existing impoundment (see Figure 1-4). The wildlife corridor would start at the impoundment, narrow to a 50-foot-wide corridor through the project area, and then fan out towards Pilarcitos Creek (including wildlife fencing along the riparian corridor of Pilarcitos Creek). Mitigation Measure BIO-1 (worker awareness training) and BIO-2 (biological monitor presence during ground-disturbing activities and pre-construction surveys before start of work each morning, as well as burrow protection, and additional measures for work in the wet season) would be implemented to reduce any impacts to California red-legged frog. Therefore, the implementation of Mitigation Measures BIO-1 and BIO-2 would reduce a potentially significant impact to this special-status species to a less-than-significant level.

## **SAN FRANCISCO GARTER SNAKE**

The federally and state endangered/fully protected San Francisco garter snake's historical range is entirely within San Mateo County. The two main components of San Francisco garter snake habitat are (1) wetlands supporting its prey species (e.g., California red-legged frog, Pacific chorus frog); and (2) surrounding uplands that are adjacent to waterways and support small mammal burrows used by the snakes for escape cover. San Francisco garter snakes inhabit various aquatic habitats, including reservoirs, freshwater marshes, creeks, drainage ditches, ponds, and lakes. Less ideal habitats can also be used by San Francisco garter snake, such as ditches and other waterways or floating algal or rush mats. Suitable breeding habitat includes shallow marshlands with an abundance of emergent vegetation. Grasslands and low ground cover are also an important upland habitat for this species, as they provide areas for thermoregulation and cover. Small mammal burrows are used by San Francisco garter snake during hibernation. During the warm days of summer, most activity occurs during the morning and afternoon. Preferred nocturnal retreats are thought to be holes, especially mammal burrows, crevices, and surface objects.

San Francisco garter snakes have been documented within the region of the project as recently as 2008. Exact California Natural Diversity Database (CNDDDB) locations of San Francisco garter snakes are suppressed because of concern about illegal collection of the species. However, there are two CNDDDB records for the Half Moon Bay U.S. Geological Survey (USGS) quadrangle, both associated with Pilarcitos Creek, with the closest one at approximately 0.5 mile downstream of the project area in 2004.<sup>31</sup> Because the primary prey species of the snake is the California red-legged frog, an established population of California red-legged frogs in the perennial freshwater marsh habitat in the impoundment would elevate the likelihood that the snake could occur in the project area.

San Francisco garter snakes can move into upland habitats during summer to prey on amphibians aestivating in small mammal burrows. They could potentially forage on amphibians in Pilarcitos Creek and the impoundment and disperse and/or aestivate throughout the project area. The San Francisco garter snake is, therefore, considered potentially present throughout the project area.

Based on the above information, there is high potential for San Francisco garter snake to occur within the project area during both the wet season (October 15 to May 31) and the dry season (June 1 to October 15). The project includes installation of wildlife fencing and a wildlife corridor which would include frog/snake tunnels under the access road to prevent impacts to San Francisco garter snake. Mitigation Measure BIO-1 (worker awareness training) and BIO-2 (biological monitor presence during ground-disturbing activities and pre-construction surveys before start of work each morning, as well as burrow protection, and additional measures for work in the wet season) would be implemented to reduce any impacts to San Francisco garter snake. Therefore, the implementation of Mitigation Measures BIO-1 and BIO-2 would reduce a potentially significant impact to this special-status species to a less-than-significant level.

## **WHITE-TAILED KITE**

White-tailed kite is a State-listed, fully protected species. White-tailed kites are common residents in the vicinity of the project area where open grassland, ruderal, or agricultural habitats are present. Large trees on and adjacent to the project area provide suitable nesting sites. The open habitats (e.g., ruderal grasslands and agricultural areas) on and adjacent to the project area provide potential foraging opportunities for this species. Although the developed nature and high levels of human disturbance within

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<sup>31</sup> California Natural Diversity Database (CNDDDB). 2021. Rarefind 5.0. California Department of Fish and Wildlife. Available at: from <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>. Accessed June 7, 2021, and other dates.



the project area make it less attractive to nesting kites, an individual was observed in the vicinity of the impoundment in 2014. Therefore, this species could potentially forage or nest in the project area.

White-tailed kite is protected while nesting by the Migratory Bird Treaty Act (MBTA) as well as by the California Fish and Game Code. Direct impacts to white-tailed kite nests could occur if a kite were to nest within or adjacent to the project area during construction, where the nest could be disturbed by noise, dust, or equipment. Mitigation Measure BIO-4, which requires a nesting bird survey for any construction performed during the nesting season between February 15 and September 15, would be implemented to reduce any impacts to white-tailed kite. A nesting bird survey and compliance with the MBTA and California Fish and Game Code would reduce impacts to nesting birds to a less-than-significant level.

The remaining species could be located in the riparian habitat or within Pilarcitos Creek adjacent to the project area and therefore would not be directly impacted by the project. However, indirect impacts could occur from project activities including, but not limited to, construction noise and sedimentation in Pilarcitos Creek.

## **CENTRAL CALIFORNIA COAST STEELHEAD DISTINCT POPULATION SEGMENT**

Steelhead in the Central California Coast Distinct Population Segment (DPS) are federally threatened, and are winter-spawning steelhead, maturing in the ocean and spawning shortly after entering freshwater. Winter steelhead enter rivers and streams in the late fall and winter months when higher flows and associated lower water temperatures occur. Adult female steelhead will prepare a redd (or nest) in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter, and are usually free of rooted or aquatic vegetation. The length of the incubation period is dependent on water temperature. Fry emerge from the gravel and rear along the stream margins, moving gradually into pools and riffles as they grow larger. Young juveniles feed primarily on aquatic invertebrate drift.

Habitat conditions in Pilarcitos Creek adjacent to the project area are suitable to support freshwater migration of adult and juvenile Central California coast steelhead. Pilarcitos Creek does not support suitable habitat for spawning, rearing, or feeding during most times of the year due to the lack of channel complexity, gravels, or connectivity with an adjacent floodplain. As a result, steelhead are only expected to be present in this portion of Pilarcitos Creek during upstream and downstream migration, which occurs late fall into spring. Designated critical habitat for Central California Coast steelhead includes aquatic habitat within Pilarcitos Creek. Although Pilarcitos Creek would not be directly affected by project activities, water quality in the creek could be affected by runoff and sedimentation during construction and operation of the project. However, the project would be required to comply with San Mateo Countywide Pollution Prevention Program (SMCWPPP), discussed in Section 2.10, Hydrology and Water Quality. In addition, project construction would disturb more than 1 acre of land; therefore, it would be required to implement a Storm Water Pollution Prevention Plan (SWPPP) to control runoff during construction. The project would relocate the existing materials enclosure further from the creek (outside of the 50-foot riparian buffer zone) and upgrade it to meet current drainage and design requirements. In addition, Mitigation Measure BIO-3 would be implemented to reduce impacts and requires measures to protect surrounding habitat from runoff of stormwater and construction chemicals and debris. Therefore, the implementation of Mitigation Measure BIO-3 in addition to compliance with the SMCWPPP and SWPPP would reduce a potentially significant impact to Central California Coast steelhead to a less-than-significant level.

## **DUSKY-FOOTED WOODRAT**

The San Francisco dusky-footed woodrat (CDFW SSC) occurs in a variety of woodland and scrub habitats from the San Francisco Peninsula south to the Pajaro River in Monterey County. Woodrats prefer riparian and oak woodland forests with dense understory cover, or thick chaparral habitat. Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years. Woodrats are also very adept at making use of human-made structures, and can nest in electrical boxes, pipes, wooden pallets, and even portable storage containers. Woodrat nest densities increase with canopy density and with the presence of poison oak. The breeding season for the dusky-footed woodrat begins in February and sometimes continues through September, with females bearing a single brood of one to four young per year.

A San Francisco dusky-footed woodrat nest was observed near Pilarcitos Creek over 3 miles east-northeast of the project area in 2007. The riparian forest adjacent to the project area provides suitable habitat for dusky-footed woodrats. Although no nests were observed in the riparian woodland habitat adjacent to the project area during the reconnaissance survey, this species could potentially nest and forage in, and disperse through, the riparian habitat along Pilarcitos Creek and around the freshwater marsh habitat in the impoundment. If woodrat nests are present within riparian woodland habitat they may be disturbed by noise or dust resulting from nearby construction activities. Foraging woodrats may enter the project site and be injured or killed by construction equipment. Mitigation Measure BIO-7 requires pre-construction surveys for nests, and protection and buffers for any nests found. Therefore, the implementation of Mitigation Measure BIO-7 would reduce impacts to San Francisco dusky-footed woodrat to a less-than-significant level. However, with the exception of removing the existing materials enclosure, project activities would not occur in the 50-foot buffer surrounding riparian habitat. Under Mitigation Measure BIO-2, all sensitive habitat would be fenced with exclusion fencing prior to project construction. Therefore, the project would have no impact on dusky-footed woodrat.

## **WESTERN POND TURTLE**

The western pond turtle (CDFW SSC) occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico. The central California population was historically present in most drainages on the Pacific slope. The perennial freshwater marsh habitat in the impoundment within the project area is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species. The reach of Pilarcitos Creek adjacent to the project area is degraded due to surrounding development; however, suitable basking and foraging habitat for pond turtles is present in this area. However, suitable nesting habitat for pond turtles is not present in the project area in upland areas adjacent to Pilarcitos Creek because the riparian habitat is too dense for nest construction and the adjacent upland grassland habitat is degraded and frequently disturbed due to the human use of the area. In addition, the nearest CNDDDB recorded observations are over 4 miles from the project area in the area of the Crystal Springs Reservoir. Thus, there is some potential for pond turtles to be present adjacent to the project area, though they are likely present in low numbers and/or infrequently as dispersers, but not as resident turtles prone to breeding and nesting in the upland habitats adjacent to the creek. The perennial freshwater marsh habitat in the impoundment is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species.

The western pond turtle may be present in low numbers and/or infrequently as dispersers in the project area. The wildlife corridor and wildlife fencing that would be installed along the riparian corridor of Pilarcitos Creek would prevent this species from dispersing into upland habitat within the project area. Furthermore, the proposed project would not directly impact the riparian vegetation surrounding either Pilarcitos Creek or the impoundment. As a result, the impacts to western pond turtle are expected to be less than significant.

## **YELLOW WARBLER**

In California, the yellow warbler (CDFW SSC) occupies wooded riparian habitats. This species prefers riparian corridors with an overstory of mature cottonwoods (*Populus* sp.) and sycamores (*Platanus occidentalis*), a midstory of box elder and willow, and a substantial shrub understory, particularly in areas with more open space adjacent to the riparian habitat. Yellow warblers construct open-cup nests in upright forks of shrubs or trees in dense willow thickets or other dense vegetation.

The yellow warbler is an uncommon to rare breeder in wooded riparian habitats, occurring primarily in association with alders and willows, in San Mateo County. Riparian woodlands in the County provide suitable nesting and foraging habitat for this species, but the species is scarce and local, being particularly scarce as a breeder on the immediate coast. Nevertheless, it is possible that one or two pairs could potentially breed in riparian habitat along Pilarcitos Creek and around the freshwater marsh, both of which are not within the project area. Otherwise, this species is expected to occur as a common migrant adjacent to the project area during the spring and fall.

The yellow warbler is protected while nesting by the MBTA and California Fish and Game Code. The project would not include Pilarcitos Creek, its surrounding riparian vegetation, or the freshwater marsh; therefore, this species would not be directly impacted by the project. Indirect impacts related to construction noise and disturbance could occur. Mitigation Measure BIO-4, which requires a nesting bird survey for any construction performed during the nesting season between February 15 and September 15, would be implemented to reduce any indirect impacts. A nesting bird survey and compliance with the MBTA and California Fish and Game Code would reduce impacts to yellow warbler to a less-than-significant level.

## **SAN FRANCISCO COMMON YELLOWTHROAT**

The San Francisco common yellowthroat (CDFW SSC) inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (*Scirpus* and *Juncus* spp.), cattails, willows, and other emergent vegetation

Nesting San Francisco common yellowthroats have been recorded in the vicinity of the project area, and observations of individuals have been recorded within the Pilarcitos Creek riparian habitat less than a mile west of the project area as recently as 2017. The species may nest in taller vegetation within the impoundment adjacent to the project area, and possibly in riparian habitat along Pilarcitos Creek.

San Francisco common yellowthroat is protected while nesting by the MBTA and California Fish and Game Code. The project would not include Pilarcitos Creek, its surrounding riparian vegetation, or the impoundment; therefore, this species would not be directly impacted by the project. Indirect impacts related to construction noise and disturbance could occur. Mitigation Measure BIO-4, which requires a nesting bird survey for any construction performed during the nesting season between February 15 and September 15, will be implemented to reduce any direct impacts. A nesting bird survey and compliance with the MBTA and California Fish and Game Code would reduce impacts to San Francisco common yellowthroat to a less-than-significant level.

## **OTHER SPECIES**

In addition, the BRR determined that six special-status wildlife species have the potential to occur in the project area: monarch butterfly (*Danaus plexippus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), American peregrine falcon (*Falco peregrinus anatum*), northern harrier

(*Circus cyaneus*), and mountain lion (*Puma concolor*). These species are expected to occur only as visitors, migrants, or transients and are not expected to reside or breed, or occur in large numbers, or otherwise make substantial use of the project area. As a result, the project is expected to have a less-than-significant impact on these species.

Under the 2020 LCLUP ruderal areas may contain foraging habitat for migratory birds and raptor species.<sup>32</sup> Migratory birds and raptors are protected while nesting by the MBTA and California Fish and Game Code. Project construction would be short-term, lasting approximately 4 to 6 months. Should nesting birds be identified, they would be protected by measures for nesting birds under Mitigation Measure BIO-4. Therefore, Mitigation Measure BIO-4 would mitigate potentially significant impacts to nesting birds to a less-than-significant level. Additionally, while no large tree cavities or caves suitable for large maternity bat roosts were identified within the project area, individual bats may forage and roost in trees on-site. Tree removal proposed may cause disturbance, injury or harm to individual roosting bats. Implementation of Mitigation Measure BIO-6, which requires pre-construction bat surveys, would ensure that impacts to roosting bats would be less than significant.

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

The BRR completed for the project area identified the habitat within and immediately surrounding the project area as consisting of a mix of ruderal grassland, developed or landscaped areas, and non-native woodland. Riparian woodland, perennial freshwater marsh, and aquatic riverine habitats are adjacent to, but outside of the project area.

The City's LCLUP has identified Environmentally Sensitive Habitat Areas (ESHA), which are defined as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." The LCLUP mapping identified three ESHAs and one potential ESHA within and adjacent to the project site:

- The Central Coast Riparian Scrub adjacent to the project area in the riparian corridor adjacent to Pilarcitos Creek is identified as "California Red-legged Frog Upland, Foraging, and Dispersal Habitat and San Francisco Garter Snake Habitat (ESHA);"
- The emergent freshwater marsh adjacent to the project area in the impoundment is identified as "California Red-legged Frog Breeding Site (ESHA);"
- The aquatic habitat adjacent to the project area in Pilarcitos Creek is identified as "Final Critical Habitat for Steelhead Designated by National Marine Fisheries Service under the Federal Endangered Species Act (ESHA);" and
- The ruderal grassland within the project area is identified as "Potential San Francisco Garter Snake Habitat and/or California Red-legged Frog Upland, Foraging, and Dispersal Habitat (Potential ESHA)."

The former agricultural impoundment still contains water, likely a combination of groundwater and surface runoff, and has perennial freshwater marsh vegetation. The freshwater impoundment is surrounded by riparian vegetation. The freshwater marsh habitat in the impoundment has been identified

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<sup>32</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed April 30, 2021.

as a known breeding site for California red-legged frog; therefore, it has been identified as an ESHA under the LCLUP. As a result, the LCLUP requires that the project maintain a 100-foot buffer from the freshwater marsh/impoundment. As part of the improvements related to the wildlife corridor, the project would remove the existing chain-link fence around the freshwater marsh and install wildlife fencing to delineate the 100-foot buffer or to the property boundaries where the 100-foot buffer goes beyond the parcel limits. The wildlife fencing would include aluminum or vinyl slates to prevent the frogs and other wildlife from leaving the protected area. As a result, the project would not disturb the freshwater marsh or riparian habitat associated with the freshwater marsh, and no impact to freshwater marsh habitat would occur.

Riparian woodland habitat is found adjacent to the south side of the project site along Pilarcitos Creek and around the impoundment in the northwest corner. Trees observed in the riparian woodland habitat include arroyo willow, red willow, red alder, and blue gum eucalyptus. The LCLUP has mapped this area as Central Coast Riparian Scrub. Riparian scrub can support a wide diversity of wildlife due to the availability of important features such as nesting sites, close proximity to water, escape and thermal cover, food, and dispersal corridors. As required by the LCLUP, the project would establish a 50-foot buffer zone from the edge of the riparian vegetation and Mitigation Measure BIO-2 requires that the buffer zone be clearly marked with signage and tape and that disturbance to vegetation be kept to a minimum. Therefore, the project would not directly impact riparian vegetation. The project would also be required to comply with the SMCWPPP and project SWPPP to prevent stormwater runoff from impacting adjacent areas. In addition, Mitigation Measure BIO-3 contains measures to ensure that no spoils, sedimentation, hazardous materials from fueling and maintenance of vehicles, or invasive plant materials enter the riparian areas. As a result, all impacts to riparian habitat would be reduced to a less-than-significant level.

The City has developed the *City of Half Moon Bay GIP*, which requires that stormwater runoff designs implement “more resilient, sustainable stormwater management which reduces runoff volumes, disperses runoff to vegetated areas, harvests and uses runoff where feasible, promotes infiltration and evapotranspiration, and utilizes natural processes to detain and treat runoff.”<sup>33</sup> Green infrastructure limits the discharge of pollutants to the storm drain system and promotes the infiltration of stormwater into the groundwater basin. Runoff from the project site drains toward Pilarcitos Creek. Project operations would be required to comply with the City’s GIP and would direct stormwater runoff from the Corporation Yard through vegetated channels or swales prior to reaching the riparian habitat adjacent to Pilarcitos Creek. Therefore, compliance with the City’s GIP, SMCWPPP, and implementation of Mitigation Measures BIO-2 and BIO-3 would reduce potential impacts related to operational runoff into riparian habitat to a less-than-significant level.

Pilarcitos Creek is a perennial freshwater stream with a connection to groundwater that flows overland adjacent to the southern portion of the project area. In the LCLUP, Pilarcitos Creek is identified as a perennial stream with well-developed canopy and critical habitat for Central California Coast steelhead, known occupied habitat for California red-legged frog and San Francisco garter snake, and past nesting for San Francisco common yellowthroat. As discussed above regarding the riparian habitat, the project would maintain a 50-foot buffer zone from the edge of the riparian habitat surrounding Pilarcitos Creek and would not directly impact the aquatic habitat. Potentially significant indirect impacts related to construction runoff would be reduced to a less-than-significant level by compliance with the City’s GIP, SMCWPPP, and implementation of Mitigation Measures BIO-2 and BIO-3. Therefore, impacts to aquatic habitat would be less than significant.

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<sup>33</sup> City of Half Moon Bay. 2019. *Green Infrastructure Plan*. Pg 87. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1>. Accessed November 12, 2021.

Non-native grassland may be considered a sensitive habitat if it is found to be especially valuable for its role in an ecosystem pursuant to the City's LCLUP. The project site is mapped as ruderal land in the LCLUP and is considered to have limited habitat value. Species that may be associated with ruderal habitat include foraging bats and migratory bird and raptors.<sup>34</sup> At the project site, the grassland may provide a wildlife corridor for California red-legged frog and San Francisco garter snake between the freshwater marsh and Pilarcitos Creek. Therefore, the ruderal grassland is considered a potential ESHA. The project would construct a fenced wildlife corridor to direct any potentially dispersing California red-legged frogs and San Francisco garter snakes from the freshwater marsh to Pilarcitos Creek. The wildlife corridor would also pass under the new access road through four frog/snake tunnels. The corridor would be a minimum of 50 feet wide, would fan out in the vicinity of the Pilarcitos Creek, and would include a wildlife barrier fence along the southern boundary of Parcel 2 for the extent of the riparian buffer along Pilarcitos Creek. Therefore, the project would not cause potentially significant impacts to the potential wildlife corridor in the upland grassland, and impacts to non-native grassland dispersal habitat would be less than significant.

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

The wetland delineation conducted on June 12, 2020, by H.T. Harvey identified a total of 0.91 acre of potentially jurisdictional features as defined by the USACE and RWQCB in the study area. These included approximately 0.29 acre of Section 404 and Section 401 waters situated below the ordinary high water mark (OHWM) line of Pilarcitos Creek, which forms the southeastern edge of the project property, but is outside the project area. Section 401 Waters of the State extend farther up to the top of the bank from Pilarcitos Creek, for an additional 0.24 acre. Sections 404 and 401 wetlands totaling approximately 0.38 acre are also present within the impoundment, which is perennially inundated and presently occupied by emergent freshwater marsh habitat. In addition, the wetland delineation identified a total of 3.52 acre of potentially jurisdictional one-parameter wetlands (having either [1] the presence of hydric soils, or [2] the presence of a predominance of wetland plants) potentially subject to jurisdiction of the CCC. This includes approximately 0.38 acre of perennial freshwater marsh, 0.29 acre of aquatic riverine, and 2.85 acres of riparian woodland. During the June 2020 wetland delineation, H.T. Harvey also determined that the willow-alder stands identified within the ruderal grassland habitat on-site were located on upland terraces and likely persisting due to a high groundwater table on-site, and were therefore not determined to be potential CCC jurisdictional wetlands. As discussed under Section 2.4.b, no work or staging would occur within the freshwater marsh habitat in the impoundment, riparian habitat, or aquatic riverine habitat. As required by the LCLUP, the project would maintain a 50-foot buffer zone from all riparian habitat and a 100-foot buffer zone from the impoundment. As a result, no direct impacts to these features would occur.

Stormwater runoff from excavation, grading, and construction activities could impact water quality in Pilarcitos Creek. Stormwater from the construction area would be unlikely to enter the freshwater marsh/impoundment, as the construction area drains away from this feature. Standard conditions of approval for all CDPs in the City include all stormwater quality BMPs required by the SMCWPPP (see Section 2.10, Hydrology and Water Quality). All construction activities would be required to implement BMPs to comply with the SMCWPPP and project SWPPP, which would prevent sediment-laden runoff and/or pollutants from entering the riparian area or Pilarcitos Creek. In addition, Mitigation Measure BIO-3, which would require management of exposed soils and vehicle fueling and maintenance, would further reduce these impacts to less than significant.

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<sup>34</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 12, 2021.

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

The grassland area of the project site may provide dispersal habitat for California red-legged frog and San Francisco garter snake to move between Pilarcitos Creek and California red-legged frog breeding habitat in the freshwater marsh. The project would abandon two existing unpaved access roads and construct a single new paved access road, reducing the number of potential conflicts between vehicles and wildlife. However, the new road could still impede dispersal for these species. In order to ensure that dispersal habitat remains available and that these species are able to move between Pilarcitos Creek and the freshwater marsh safely, the project includes construction of a protected, fenced, minimum 50-foot-wide wildlife corridor, which would include four frog/snake tunnels under the access road (see Section 1.5. Proposed Project). As a result of construction and maintenance of the protected wildlife corridor, the project would have a less-than-significant impact on native species wildlife corridors.

The project site contains suitable nesting and foraging habitat for avian species protected under the MBTA and California Fish and Game Code Sections 3511 and 3513. Although no nesting was observed during the BRR field survey due to the timing of the survey, avian species protected by the MBTA and California Fish and Game Code observed in the project area during the BRR field survey included American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), Savannah sparrow (*Passerculus sandwichensis*), white-crowned sparrow (*Zonotrichia leucophrys*), and red-winged blackbird (*Agelaius phoeniceus*). The project has the potential to impact potential eggs or young of avian species covered under the MBTA and California Fish and Game Code. The developed portion of the project area could be used for nesting by native species such as the American crow, Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), bushtit (*Psaltriparus minimus*), and California scrub-jay (*Aphelocoma californica*). In addition, unused dilapidated structures present within the grassland and adjacent to the riparian habitat, may be attractive to other nesting and/or roosting bird species in the area, such as the black phoebe. Further, the several Monterey cypress and Monterey pine trees around the west, east, and north perimeters of the project area may provide suitable nesting habitat for raptors, such as red-tailed hawks (*Buteo jamaicensis*). The riparian woodland provides suitable nesting habitat for a variety of common, resident bird species such as the California scrub-jay, American robin (*Turdus migratorius*), American crow, lesser goldfinch (*Spinus psaltria*), and bushtit. Numerous species of migratory birds also use this riparian woodland. These include species such as the black-headed grosbeak (*Pheucticus melanocephalus*), Wilson's warbler (*Cardellina pusilla*), and Swainson's thrush (*Catharus ustulatus*) that breed in this habitat but migrate south for winter. While potential nesting sites for migratory birds could be removed through removal of vegetative ground cover on the project site, hundreds of acres of suitable nesting and foraging habitat are present near the project and would remain undisturbed by project activities. Therefore, suitable nesting habitat would remain within and in the vicinity of the project. If work occurs during avian nesting season, implementation of Mitigation Measure BIO-4, which requires nesting bird surveys and construction modifications if active nests are identified, would ensure that impacts to nesting birds would be less than significant.

An examination of trees and structures in the project area and surrounding 200-foot-wide buffer did not detect any large cavities that might provide suitable bat roosting habitat. Therefore, large roosting or maternity colonies of bats are not expected to occur in the project area. Individual bats may be attracted to riparian areas to roost in trees and forage over nearby water sources and grassland habitat within the project site. Tree removal proposed may cause disturbance, injury, or harm to individual roosting bats. Implementation of Mitigation Measure BIO-6, which requires pre-construction bat surveys, would ensure that impacts to roosting bats would be less than significant.

**e. Would the project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?**

The project would have a significant impact if it would conflict with the City’s Heritage Tree Ordinance under Municipal Code Chapter 7.40<sup>35</sup> or the City’s Coastal Resource Conservation Standards under Municipal Code Chapter 18.38.<sup>36</sup> Section 7.40.020 of the Heritage Tree Ordinance defines heritage trees as:

- A. A tree located on public or private property, exclusive of eucalyptus, with a trunk diameter of 12 inches or more, or a circumference of at least 38 inches measured at 48 inches above ground level.
- B. A tree or stand of trees so designated by resolution of the city council based on its finding of special historical, environmental or aesthetic value, including a resolution adopted under former Chapter 12.16.

The project would remove 12 trees on the project site and would replace them by planting 12 new trees—a 1-to-1 ratio, as required by the LCLUP. No riparian trees would be impacted. To comply with Section 7.40.020 of the Heritage Tree Ordinance, Mitigation Measure BIO-5 requires that a tree survey be conducted by a certified arborist, and that removal of trees be avoided or replaced where feasible. With implementation of Mitigation Measure BIO-5, impacts to heritage trees would be less than significant.

The Coastal Resource Conservation Standards in the LCLUP require any proposed project within 100 feet of a “sensitive habitat area” to prepare a biological report. Sensitive habitat is defined as sand dunes, marine habitats, sea cliffs, riparian areas, wetlands, rocky intertidal zones, coastal scrub, and habitats supporting rare and endangered species defined by the California State Fish and Game Commission. The project site is mapped as having three ESHAs and one Potential ESHA on the City’s ESHA maps in the 2020 LCLUP (see Section 2.4.b above).<sup>37</sup> A BRR was prepared for the project site specifying mitigation measures to protect potential sensitive species and habitats. The BRR measures have been incorporated into the mitigation measures listed below. The project would remove the existing materials enclosure, which is partially within the 50-foot riparian buffer. The new enclosure would be located farther away and constructed to meet all current stormwater and other design standards. The project would also remove the existing security fence around the impoundment, which is within the 100-foot wetland buffer zone, and replace it with wildlife fencing establishing a 100-foot buffer area around the impoundment and guiding wildlife into the wildlife corridor. The project would maintain a fenced 100-foot buffer around the impoundment. The project would also maintain a 50-foot buffer area from the riparian vegetation and construct a protected wildlife corridor with frog/snake tunnels under the new access road. Therefore, any impacts to ESHA would be less than significant with implementation of mitigation measures. As a result, the project complies with the 2020 LCLUP and Municipal Code Chapter 18.38.

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<sup>35</sup> City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code Chapter 7.40. Heritage Trees*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/html/HalfMoonBay07/HalfMoonBay0740.html>. Accessed November 12, 2021.

<sup>36</sup> City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code Chapter 18.38. Coastal Resource Conservation Standards*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/html/HalfMoonBay18/HalfMoonBay1838.html#18.38>. Accessed November 12, 2021.

<sup>37</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 6. Natural Resources, Figure 6-2. Environmentally Sensitive Habitat Areas*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 12, 2021.



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

There are no Habitat Conservation Plans or Natural Community Conservation Plans that apply to the project. Therefore, no impact would occur.

### **Mitigation Measures**

The project shall comply with all of the following relevant measures. These measures have been developed based on measures identified in the BRR and BRR Peer Review:

- BIO-1** The following mitigation measures shall be implemented during the project:
- a. Prior to the start of the project, all construction crew members shall attend an environmental awareness training presented by a qualified biologist. A training brochure describing special-status species, project avoidance and minimization measures, key contacts, and potential consequences of impacts to special-status species and potentially jurisdictional features shall be distributed to the crew members during the training. Trainees shall sign an environmental training attendance sheet. These personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act and the California Endangered Species Act. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site.
  - b. Disturbance to vegetation shall be kept to the minimum necessary to complete the project activities. To minimize impacts to vegetation, a qualified biologist shall work with the contractor to designate the work area and any staging areas as well as delineate areas that shall be avoided with signage and tape. Areas that shall be avoided include Pilarcitos Creek, the impoundment, riparian habitat, and the wildlife corridor. Specifically, the buffer shall be 50 feet outward from the limit of riparian vegetation along Pilarcitos Creek or 100 feet from the top of bank within Pilarcitos Creek (whichever is greater) and 100 feet outward from the impoundment. The identified buffer shall be clearly depicted on any construction plans. Work may occur within these buffer areas under the supervision of a qualified biologist, and shall be limited to removal of the existing materials enclosure and the existing fencing around the impoundment. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the impoundment, associated riparian habitat, and annual grassland to be avoided shall be flagged or fenced.
  - c. All riparian habitat and the 50-foot riparian buffer area to be avoided shall be shown on project design plan sets, and prior to project activities, these areas shall be protected with high-visibility fencing.

- d. If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits.
- e. During project activities, all trash that may attract predators such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site. Following construction, trash/construction debris shall be removed from work areas.
- f. The area of disturbance shall be limited to the minimum necessary to complete the project. Project boundaries shall be clearly demarcated, and these areas shall be outside of sensitive areas.
- g. No firearms shall be allowed on the project site, except for federal, state, or local law enforcement, or security guards. No pets shall be allowed on the project site.
- h. Project-related vehicles shall observe a 10 mile-per-hour speed limit in all project areas, except on City and County roads, and state highways; this is particularly important on rainy nights when California red-legged frogs are most active.
- i. Nighttime construction shall be avoided.

**BIO-2**

The following measures shall be implemented to minimize impacts to special-status amphibians and reptiles:

- a. The City will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species.
- b. A qualified biological monitor (or as required by project permits) shall be on-site during all project construction activities that may result in take of any special-status species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist exercises this authority, the USFWS and CDFW shall be notified by telephone and electronic mail within twenty-four (24) hours.
- c. A temporary wildlife exclusion barrier shall be installed at the discretion of the qualified biologist (or as required in project permits). Prior to any ground disturbance in the impact area, the temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to installation of the barrier. The barrier shall be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area, and shall remain in place until all development activities have been completed. This barrier shall be

inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.

- d. Plastic mono-filament netting (erosion control matting), rolled erosion control products, or similar material shall not be used at the project site to prevent trapping California red-legged frogs, San Francisco garter snakes, or other species.
- e. Within 24 hours of the planned start of project activities, a focused preconstruction survey for sensitive and listed species, including but not limited to California red-legged frog and San Francisco garter snake, shall be conducted by a qualified biologist within the impact area. The qualified biologist shall investigate all potential areas that could be used by the California red-legged frog and San Francisco garter snake for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows. Construction activities shall not take place until the survey is completed.
- f. Construction materials, including, but not limited to, wooden pallets, BMPs, equipment, or other materials, that are left on the ground for more than 24 hours shall be inspected before and during moving of the materials to prevent potential impacts to animals that may have utilized the materials as a temporary refuge. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods shall be either securely capped prior to storage or thoroughly inspected by the qualified biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the qualified biologist or construction foreman/manager, the protocol in Mitigation Measure BIO-2(h) shall be followed.
- g. To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the qualified biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the qualified biologist. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by the qualified biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the qualified biologist or anyone else, the steps in Mitigation Measure BIO-2(i) shall be followed.
- h. If a California red-legged frog or San Francisco garter snake, or any animal that construction personnel believes may be either of these species, is encountered during project construction, the following shall be followed:
  - i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease;
  - ii. The foreman and qualified biologist shall be immediately notified; and
  - iii. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow

Mitigation Measure BIO-2h for California red-legged frog and  
Mitigation Measure BIO-2i for San Francisco garter snake.

- i. If any California red-legged frogs are found during implementation of Mitigation Measures BIO-2(a), BIO-2(b), BIO-2(c), BIO-2(d), BIO-2(e), BIO-2(f), or BIO-2(g) the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.
- j. The qualified biologist shall monitor any individual San Francisco garter snake encountered within the impact area, but allow it to leave the impact area on its own. If the qualified biologist determines that the snake cannot leave on its own then the USFWS and CDFW shall be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes shall be handled without explicit agency approval.
- k. Planting of western mosquitofish (*Gambusia affinis*) within the impoundment shall be prohibited. Treatment of the impoundment for mosquito larvae by the Mosquito Abatement District will be conducted utilizing alternative treatments approved by the District (e.g., insect growth regulators).
- l. The use of any pesticides in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the project area, and the depletion of food items on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. Furthermore, pesticide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.
- m. The use of herbicides shall not be permitted unless approved by CDP amendment. Future approval of herbicide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.
- n. The use of rodenticides (i.e., anticoagulants) for controlling rodents, such as rats (*Rattus* spp.), house mice (*Mus musculus*), and California ground squirrels (*Spermophilus beecheyi*), shall be prohibited. If rodent control is required by the City, localized trapping efforts shall be conducted.

- o. Construction activities (e.g., grubbing, grading) shall occur during dry weather conditions only, and to the extent feasible, during the dry season (June 1 to October 15) to facilitate avoidance of California red-legged frog and San Francisco garter snake.
- p. Regardless of the season, construction shall adhere to SMCWPPP BMPs, and no construction shall occur during and within 24 hours following a significant rain event (defined as greater than 0.25 inch in a 24-hour period). Following a significant rain event and the 24-hour drying-out period, a qualified biologist shall conduct a preconstruction survey for California red-legged frog and other sensitive species prior to the restart of any project activities.
- q. A wildlife corridor shall be constructed as part of the Project and would funnel any potentially dispersing California red-legged frog or San Francisco garter snake into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact California red-legged frog or San Francisco garter snake. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual California red-legged frog and San Francisco garter snake would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent California red-legged frog or San Francisco garter snake from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both California red-legged frog and San Francisco garter snake to provide a safe and suitable movement corridor without any further management actions required.
- r. The wildlife corridor fencing shall be maintained as a boundary to allow for safe wildlife movement between the impoundment and Pilarcitos Creek by funneling any dispersing wildlife through tunnels beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The wildlife fencing, tunnel, and corridor shall be maintained over the lifetime of its use, and any portion that is observed to be broken or not functioning property shall be repaired immediately by the City.
- s. A temporary material may be used for the wildlife fencing, such as ERTEC or similar material, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing, it shall be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife fencing (e.g., chain-link fencing with vinyl slats) or re-assessed for efficacy by a qualified biologist.
- t. Installation of the wildlife corridor and associated fencing should take place during dry weather conditions to ensure that no dispersing California red-legged frogs or San Francisco garter snakes are trapped in upland areas.
- u. The wildlife corridor shall be maintained and repaired annually or more frequently as needed. The tunnels beneath the access road shall be inspected to ensure that it is not blocked by vegetation or sediment. Vegetation fuels management within the wildlife corridor shall use low impact methods (such as goat grazing or using hand tools) on an annual basis. Any mechanical

maintenance activities (including using hand tools for vegetation maintenance) within the wildlife corridor shall be closely monitored by an approved biologist.

**BIO-3**

The following measures shall be implemented to minimize impacts to Pilarcitos Creek and riparian habitat in the vicinity of the project:

- a. The project shall comply with the SMCWPPP, Municipal Regional Stormwater National Pollution Discharge Elimination System (NPDES) Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which shall prevent stream downcutting, riparian bank erosion, or other downstream impacts.
- b. All spoils, such as dirt, excavated material, debris, and construction-related materials, generated during project activities shall be placed where they cannot enter any drainage ditch, culvert inlet, or nearby vernal marshes. Spoils shall be covered or secured to prevent sediment from escaping. Once the spoil pile is no longer active, it shall be removed from the work area and disposed of lawfully at an appropriate facility.
- c. All exposed soils in the work area resulting from project activities shall be stabilized immediately following the completion of work to prevent erosion. Erosion and sediment control BMPs, such as silt fences, straw hay bales, gravel or rock-lined drainages, water check bars, and broadcast straw, can be used. BMPs shall be made of certified weed-free materials. Straw wattles, if used, shall be made of biodegradable fabric (e.g., burlap) and free of monofilament netting. At no time shall silt-laden runoff be allowed to enter any drainages or other sensitive areas.
- d. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 100 feet from any drainages and other water features, including Pilarcitos Creek. Crew members shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, the construction contractor shall prepare a plan to be approved by the City before construction begins to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
- e. All exposed surfaces shall be wetted periodically to prevent significant dust.
- f. All stockpiled soil shall be covered during periods of rain.
- g. The following BMPs shall be implemented to limit the spread of invasive species into sensitive habitats:
  - i. All ground-disturbing equipment used adjacent to the riparian habitat shall be washed (including wheels, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site;
  - ii. All applicable construction materials used on-site, such as straw wattles, mulch, and fill material, shall be certified weed free;
  - iii. The project shall follow the SMCWPPP and a SWPPP as per the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable;
  - iv. All disturbed soils shall be stabilized and planted with a native seed mix from a local source following construction;

- v. If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) shall not be used in general soil stockpiles and shall not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil shall be disposed of off-site at a landfill.

**BIO-4** The following measures shall be implemented to minimize impacts to nesting birds, as required by the MBTA and California Fish and Game Code:

- a. If project activities, including, but not limited to, grubbing and grading, are conducted during nesting bird season (generally February 15 to September 15), preconstruction nest surveys shall be conducted in and near the project (within 500 feet for large raptors and 300 feet for all other birds) by a qualified biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the project shall be modified (i.e., a no-work exclusion buffer of appropriate size [to be determined by the qualified project biologist] shall be erected around active nests) and/or delayed as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.
- b. If construction activities shall not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project shall be removed prior to the start of the nesting season (e.g., prior to February 15), to the extent feasible. This shall preclude the initiation of nests in this vegetation and prevent the potential delay of the project due to the presence of active nests in these substrates.

**BIO-5** The following measures shall be implemented to minimize impacts to heritage trees:

- a. During detailed design of the project, removal of trees protected by the City heritage tree ordinance shall be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the project area. Where removal of trees cannot be avoided, the City shall comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.

**BIO-6** The following measures shall be implemented to minimize potential impacts to individual roosting bats:

- a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary.
- b. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal shall begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking

forage). Trees shall be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.

**BIO-7** The following measures shall be implemented to minimize potential impacts to San Francisco dusky-footed woodrat nests:

- a. Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat shall be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation shall be warranted. If nests are found, then Mitigation Measures b and c shall be implemented.
- b. Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-foot buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat shall be avoided by the project, high-visibility fencing shall be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.
- c. If avoidance of occupied nests is not feasible, the woodrats shall be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist shall disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks shall be relocated; these materials shall be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests shall not be less than 20 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.

## 2.5 Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



## **Environmental Evaluation**

SWCA conducted a cultural resources investigation that included background research, a sacred lands file (SLF) search, and a field survey in support of the project. SWCA presented the findings of this investigation in a cultural resources memorandum in October 2021. In addition, SWCA conducted a historical resources evaluation of the existing farmhouse and adjacent garage in November 2021. The information below is based on these two memoranda.

### **a. Would the project cause a substantial adverse change in significance of a historical resource as defined in State CEQA Guidelines §15064.5?**

A significant impact would occur if the project were to impact a historical resource defined as (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC, or (3) any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant.<sup>38</sup>

A review of the records received from the Northwest Information Center (NWIC) and historical maps suggest that there is one built environment resources within the project area. These resources were previously determined to be ineligible for inclusion in the National Register of Historic Places (NRHP) or CRHR, and survey confirmed that two of these resources are, in fact, located outside of the project area. The third built-environment property is a one-story Ranch House-style residence constructed in 1961; it is currently used as offices by City staff. The residence would not be altered, relocated, or demolished as part of the project. The residence was previously evaluated in 1998 before it had reached the 50-year mark, generally signaling the need for evaluation. SWCA completed a due-diligence historic resource evaluation to ascertain the current historic resource status of the residence. The due-diligence evaluation determined that the subject property is not eligible at the federal, state, or local level and therefore does not qualify as a historical resource pursuant to CEQA. Therefore, the proposed project would not result in significant adverse impacts to historical resources, and no impact would occur.

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

A significant adverse effect would occur if grading or excavation activities associated with a project were to disturb previously unknown archaeological resources. The project site is mapped as archaeologically sensitive on the LCLUP Archaeological Sensitivity Areas Map.<sup>39</sup> The NWIC-conducted records search indicated that there is one previously recorded archaeological resource within the project area. The SWCA intensive archaeological pedestrian survey did not result in the identification of surface constituents of this resource. However, the absence of known archaeological resources on the surface does not preclude their existence at the subsurface level. Although the project site is previously disturbed, with project activities to include grading and limited excavation for new utilities and road and slab foundations for new structures, subsurface deposits related to this resource may be encountered during ground-disturbing activities. Therefore, the City is presently conducting archaeological testing for the purpose of gaining additional information regarding the presence or absence of cultural constituents

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<sup>38</sup> 14 CCR Section 15064.5. September 17, 2021. Available at: <https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-5-preliminary-review-of-projects-and-conduct-of-initial-study/section-150645-determining-the-significance-of-impacts-to-archaeological-and-historical-resources>. Accessed September 30, 2021.

<sup>39</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 8. Cultural Resources, Figure 8-1. Archaeological Sensitivity Areas*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed September 30, 2021.

within the parcel, the results of which will be included in the Final IS/MND. Based on the available information, it is considered likely that the archaeological testing will provide negative results. However, in the event that cultural materials are identified during archaeological testing, these materials will be cataloged and subject to in-field analysis, and the records and results will be presented in a report to be submitted to the NWIC. The level of analysis will be scaled appropriately based on the volume and likely significance of materials collected. Identification of a long-term cultural repository for recovered archaeological materials is not anticipated at this time. However, if archaeological material is found to require curation in a storage facility, the City will coordinate with a qualified curatorial facility as defined in the Curation of Federally-Owned and Administered Archaeological Collections (36 Code of Federal Regulations [CFR] Part 79) and the State of California Guidelines for the Curation of Archaeological Collections (1993).

Prior to the initiation of project activities, an environmental awareness training will be presented by a qualified archaeologist (CUL-1). This training will detail the types of cultural resources that may be encountered, as well as procedures to occur in the event of accidental discovery, in agreement with the standard unanticipated discovery condition, below. Mitigation Measure CUL-2 will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities.

***Standard Condition:*** *If undiscovered cultural resources are encountered during project implementation, all work within 50 feet of the discovery shall be stopped. The project applicant will retain a qualified archaeologist to assess the finds to determine whether they qualify as an historical or unique archaeological resource as defined by CEQA Guidelines § 15064.5. If the find is determined to be an historical or unique archaeological resource, avoidance is preferred. However, if avoidance is not feasible, measures to avoid adverse effects shall developed and mitigation implemented. No work shall proceed within 50-feet of the find until the qualified archaeologist, the project applicant, and the City are in written agreement that avoidance or mitigation measures have been satisfied.*

Potential impacts to archaeological resources would be considered less than significant with the implementation of the standard condition, Mitigation Measure CUL-1, and Mitigation Measure CUL-2.

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

A significant adverse effect would occur if grading or excavation activities associated with a project were to disturb previously interred human remains.

The disposition of burials falls first under the general prohibition on disturbing or removing human remains under California Health and Safety Code Section 7050.5. More specifically, remains suspected to be Native American are treated under State CEQA Guidelines Section 15064.5, and California PRC Section 5097.98 illustrates the process to be followed in the event that remains are discovered. If human remains are discovered during construction, no further disturbance to the site shall occur, and the County of San Mateo Coroner must be notified (CCR 15064.5 and PRC 5097.98).

The records search conducted for the project did not reveal any known Native American burial sites. The absence of Native American sacred places does not preclude their existence at the subsurface level. Project activities include grading and limited excavation to install the new utilities and road and slab foundations for new structures. Therefore, subsurface deposits related to this resource may be encountered during ground-disturbing activities. Environmental impacts may result from project discovery of unrecorded human remains during grading and excavation. Although not anticipated, it is possible that discoveries of human remains may occur during ground-disturbing activities associated with project construction. Disturbance of unanticipated human remains would be a potentially significant impact. In the event that previously undiscovered human remains are encountered during the project,

the project would be required to implement the following standard City condition of approval that is applicable to all CDPs:

**Standard Condition:** Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code, in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The County Coroner shall be notified immediately and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the NAHC who shall attempt to identify descendants of the deceased Native American(s). If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the permittee shall reinter the human remains, and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.

With implementation of the above standard condition of approval, and Mitigation Measures CUL-1 and CUL-2, the project would have a less-than-significant impact to human remains.

### Mitigation Measures

There is one recorded archeological resource in the project area. The following measures are provided to avoid and/or reduce impacts to a less-than-significant level in the event unknown or subsurface resources are encountered during project implementation.

**CUL-1** Prior to the start of the project, all construction crew members will attend an environmental awareness training. This environmental awareness training will be conducted by a qualified archaeologist and will address cultural situations that may be encountered. An archaeologist will prepare an archaeological brochure to be distributed to the construction crew at the on-site environmental awareness training. The brochure will identify the types of cultural resources that may be encountered and the procedures to be followed in the event of accidental discovery.

**CUL-2** The project will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities. The CRMP shall include provisions for stop-work by the archaeologist, ownership and proper handling of archaeological resources upon and following discovery, reporting format and frequency, and a project specific communications plan will need to be completed prior to start of work.

## 2.6 Energy

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Environmental Evaluation**

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

Energy use during project construction would be short term and temporary. Construction of the project would require the use of construction equipment and worker vehicles that would use energy. There are no established thresholds of significance for construction-related energy use; therefore, energy use during construction activities was not estimated. As discussed in Section 2.8, Greenhouse Gas Emissions, the project would implement the following BMPs, as required by the BAAQMD and the California Green Buildings Standard to reduce construction-related GHG emissions, which would also improve energy efficiency:

- 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 Toxic Control Measures in 13 CCR Section 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- To the extent feasible, off-road construction diesel engines shall meet Tier 3 or Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines.
- At least 65 percent of all construction waste or demolition material shall be recycled.<sup>40</sup>

Recycling construction waste would reduce the amount of energy used in the production of new materials.

Due to the relatively small scale and short duration of construction activities, the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources, and construction impacts would be less than significant.

Operation of the Corporation Yard would not change as a result of the project. The new solar field would require minimal maintenance, including panel washing and manual vegetation removal. The facility would be monitored remotely, and maintenance activities would only be conducted when needed. Maintenance activities would not require excessive or wasteful use of energy that could lead to potentially significant environmental impacts. Consumption of energy during operation would be less than or equal to the amount of renewable energy generated by the solar facility. Electricity generated by the solar field would be used to make operation of the Corporation Yard carbon neutral. Therefore, the project would not result in the wasteful or inefficient use of energy, and this impact would be less than significant.

### **b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

Operation of the project would have little or no new energy use, and energy use during project construction would be short term and temporary. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

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<sup>40</sup> California Department of Resources Recycling and Recovery (CalRecycle), 2002. *Frequently Asked Questions: California Green Building Code*. Available at: <https://www.calrecycle.ca.gov/lgcentral/library/canddmodel/instruction/faq#diversion>. Accessed September 9, 2021.

## 2.7 Geology and Soils

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **Environmental Evaluation**

**a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

**i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

The project site is located in a seismically active region, and moderate to strong earthquakes can occur on numerous local faults. Surface rupture is defined as surface displacement that occurs along the surface trace of the causative fault during an earthquake. The project site is approximately 2.5 miles east the

San Gregorio-Seal Cove Fault Zone<sup>41</sup> and 4.5 miles west the San Andreas Fault Zone.<sup>42</sup> No known active faults cross the project site, and the project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone.<sup>43</sup> Based on these considerations, the potential for surface rupture at the project site is considered low. The project would upgrade the existing facilities at the Corporation Yard, including construction of a solar field. It would not construct any facilities for human habitation. Since the project is over 2 miles from the nearest known earthquake fault, the project would have no impacts related to rupture of a known earthquake fault.

**ii. Strong seismic ground shaking?**

The project site has experienced generally moderate-to-high levels of shaking during past earthquakes. The site's relatively close proximity to two active faults (2.5 miles from the San Gregorio-Seal Cove Fault and 4.5 miles from the San Andreas Fault Zone) means it would likely experience moderate to occasionally high ground shaking from future earthquakes.

The design and construction of the project is required to comply with the building codes related to seismic risk such as the California Building Code (CBC) and Half Moon Bay Municipal Code, which incorporates the International Building Code. The City would be required to submit a soils report in order to obtain a building permit from the City Community Development Department, which would ensure that project plans and specifications comply with the CBC and local amendments to the code, where applicable. Among many seismic requirements, the CBC requires foundations and structures to be designed and constructed to withstand the ground motions (i.e., peak ground accelerations [g]) that have a 10 percent chance of being exceeded in 50 years (equivalent to a 1/475 annual chance of being exceeded). The project area is estimated to have a 10 percent probability of experiencing a ground motion of 0.513 g in 50 years, which is an intensity that would present severe perceived shaking and has the potential to cause moderate to heavy structural damage.<sup>44</sup>

The project would upgrade the existing facilities at the Corporation Yard, including construction of a solar field. It would not construct any facilities for human habitation. The 2019 CBC and standard geotechnical engineering practice requires identification of seismic design parameters to inform all earthwork requirements, foundation designs, and concrete/building material specifications. Design and construction of the project in accordance with the CBC would be sufficient to ensure public exposure to earthquake risks would remain minimal. Therefore, this impact would be less than significant

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<sup>41</sup> California Department of Conservation (CDOC). 1976. State of California Special Studies Zones, Half Moon Bay Quadrangle. CDOC, Division of Mines and Geology. Available at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/>. Accessed September 10, 2021.

<sup>42</sup> California Department of Conservation (CDOC). 1974, 2019. Earthquake Zones of Required Investigation, Woodside Quadrangle. CDOC, California Geological Survey. Available at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/>. Accessed September 10, 2021.

<sup>43</sup> California Department of Conservation (CDOC). 1974, 2019. Earthquake Zones of Required Investigation, Woodside Quadrangle. CDOC, California Geological Survey. Available at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/>. Accessed September 10, 2021.

<sup>44</sup> California Department of Conservation (CDOC). 2008. Ground Motion Interpolator Website. CDOC, California Geological Survey. Available at: <https://www.conservation.ca.gov/cgs/ground-motion-interpolator>. Accessed September 10, 2021.

**iii. Seismic-related ground failure, including liquefaction?**

The project site has a low-to-medium potential for liquefaction.<sup>45</sup> As discussed above, the City would be required to submit a soils report that complies with the CBC. As stated above, 2019 CBC and standard geotechnical engineering practice requires identification of seismic design parameters to inform all earthwork requirements, foundation designs, and concrete/building material specifications. Design and construction of the project in accordance with the CBC would be sufficient to ensure public exposure to risks related to seismic-induced ground failure would remain minimal. Therefore, this impact would be less than significant.

**iv. Landslides?**

The project site is essentially flat and has no landslide potential. No impact would occur.

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

A significant impact would occur if a project would expose large areas to the erosional effects of wind and water for a protracted period of time, resulting in substantial erosion and/or the loss of topsoil. The project site has a low-to-moderate erosion risk.<sup>46</sup> Since the majority of the project work area is essentially flat, clearing, excavation, and grading activities at the project site are unlikely to result in significant short-term erosion impacts. In addition, project construction would comply with the SMCWPPP, which would include BMPs to prevent stormwater erosion from leaving the site. The project would replace gravel and dirt roads and parking areas with a paved road and two paved parking areas, reducing the overall operational erosion potential of the Corporation Yard. Therefore, impacts related to soil erosion would be less than significant.

The project would not require large amounts of excavation for road and construction of Corporation Yard improvements. The project would require a total of approximately 1,475 cubic yards of cut and 3,810 CY of fill. Approximately 590 cubic yards of soil and debris would be hauled off-site for disposal.

As required by the San Francisco RWQCB and the SMCWPPP, the project would implement BMPs to reduce erosion during construction. Since the total area of disturbance is more than 1 acre (approximately 1.78 acres), the City would be required to implement a SWPPP, according to the requirements of the San Francisco Bay RWQCB Municipal Regional Stormwater NPDES Permit and the SMCWPPP. The plan would include BMPs to control erosion and sedimentation impacts and stabilize disturbed bare earth areas. Any bare earth areas would be reseeded prior to the end of construction. Section 2.10, Hydrology and Water Quality, provides additional information about the SWPPP and Municipal Regional Stormwater NPDES Permit requirements and related permits.

The addition of approximately 54,260 square feet (1.25 acres) of impervious surface area for Corporation Yard improvements and access road could increase the stormwater runoff volume and rate compared with existing conditions, which could in turn accelerate soil erosion and loss of topsoil if stormwater were conveyed into Pilarcitos Creek. The City has developed the GIP, which requires construction projects to prioritize green infrastructure to capture stormwater. Stormwater from the project site flows overland to Pilarcitos Creek. Stormwater runoff would be directed into new vegetated channels or swales, which

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<sup>45</sup> City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends and Opportunities Assessment Report*. Figure 5-13, Liquefaction Susceptibility. Available at: [General Plan | Half Moon Bay, CA \(half-moon-bay.ca.us\)](http://General Plan | Half Moon Bay, CA (half-moon-bay.ca.us)). Accessed September 10, 2021.

<sup>46</sup> City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends and Opportunities Assessment Report*. Figure 5-10, Erosion Risk. Available at: [General Plan | Half Moon Bay, CA \(half-moon-bay.ca.us\)](http://General Plan | Half Moon Bay, CA (half-moon-bay.ca.us)). Accessed September 10, 2021

would provide biotreatment of stormwater prior to entering Pilarcitos Creek and meet the requirements of the GIP.<sup>47</sup> All disturbed areas would be reseeded prior to the end of construction. The new drainages would be adequate to handle the additional volume of stormwater from 1.25 acres of impervious surface area. Therefore, impacts resulting from water-related erosion would be less than significant.

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

The work area of the project site is essentially flat and has no potential for landslide and little potential for lateral spreading. Farallone loam, Gazos and Lobitos soils, and Tierra loam, which underlay the majority of the project site, have moderate potential for liquefaction. Farallone coarse sandy loam has low potential for liquefaction. Seismic settlement is not mapped for the project area, but considering the alluvial nature of most soils within the planning area, there is potential for seismic settlement.<sup>48</sup> All new roads and structures would meet the requirements of the CBC and be engineered to meet requirements for seismic and geotechnical stability. This impact would be less than significant.

**d. Would the project be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

The expansion potential of soils underlying the project area varies but is generally considered low to moderate, depending on the clay content. The Farallone loam, Gazos and Lobitos soils, and Tierra loam have generally low clay content; therefore, the project would have a low-to-moderate shrink-swell potential.<sup>49</sup>

The project would comply with the Uniform Building Code and would include a geotechnical analysis of the underlying soils and recommendations to avoid damage related to expansive soils. Therefore, this impact would be less than significant.

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

The Corporation Yard is tied into the City sewer system. The project would not use septic tanks or alternative wastewater disposal systems; therefore, no impact would occur.

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

Geologic units from a geological map of the county were analyzed for their potential paleontological sensitivity. Paleontological sensitivity is defined as the potential for a geological unit to produce scientifically significant fossils. In *Standard Procedures for the Assessment and Mitigation of Adverse*

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<sup>47</sup> City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1>. Accessed April 23, 2021.

<sup>48</sup> City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends and Opportunities Assessment Report*. Available at: [General Plan | Half Moon Bay, CA \(half-moon-bay.ca.us\)](https://www.half-moon-bay.ca.us/DocumentCenter/View/1111/GeneralPlan). Accessed September 10, 2021

<sup>49</sup> U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). 2021. Web Soil Survey. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed November 12, 2021.



*Impacts to Paleontological Resources*,<sup>50</sup> the Society of Vertebrate Paleontology (SVP) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential. No records searches or field surveys were conducted as part of the paleontological review. The project is located in the geologic units Qyf and Qmt. These are Pleistocene era and described as younger alluvial fan deposits and marine terrace deposits.<sup>51</sup> There have been no paleontological resources discovered in the project area, and the project would include only minor grading for roads, parking areas, and foundations; therefore, the project is unlikely to disturb a paleontological resource.

The 2020 LCLUP indicates that no paleontological resources of known significance have been identified in the City, and they are extremely limited in the entire county coastal zone.<sup>52</sup> The project has the potential to impact paleontological resources if the work affects sensitive, previously undisturbed surficial sediment or sedimentary rock. The potential for significant paleontological discovery and impact are anticipated to be low within the proposed work area because the project is on flat land and includes minor grading. In the unlikely event that a paleontological resource is discovered, the City would implement Mitigation Measure GEO-1. As a result, project activities would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, and impacts would be less than significant with mitigation.

### **Mitigation Measures**

**GEO-1** In the unlikely event that a paleontological resource is discovered, the City shall comply with PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the State or any county, city, district, authority, or public corporation, or any agency thereof. To be consistent with these PRC sections, in the event that paleontological resources are exposed during construction, work in the immediate vicinity of the find must stop until a qualified paleontologist can evaluate the significance of the find. Construction activities may continue in other areas. If the discovery proves significant under the provisions of CEQA, the paleontologist shall prescribe and the City shall implement additional measures, such as testing or data recovery, to avoid impacts to the resources.

## **2.8 Greenhouse Gas Emissions**

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<sup>50</sup> Society of Vertebrate Paleontology (SVP). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. SVP Impact Mitigation Guidelines Revision Committee. Available at: [https://vertpaleo.org/wp-content/uploads/2021/01/SVP\\_Impact\\_Mitigation\\_Guidelines.pdf](https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf). Accessed November 2021.

<sup>51</sup> U.S. Geological Survey (USGS). 1983. *Geologic Map of San Mateo County, California*. Available at: [https://ngmdb.usgs.gov/Prodesc/proddesc\\_49.htm](https://ngmdb.usgs.gov/Prodesc/proddesc_49.htm). Accessed November 12, 2021.

<sup>52</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 8. Cultural Resources*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 12, 2021.

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

### a. **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

GHGs are compounds in the earth’s atmosphere that play a critical role in determining the earth’s surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth’s atmosphere, but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth’s atmosphere are thought to be linked to global climate change, causing rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather. GHGs include carbon dioxide (CO<sub>2</sub>), methane, ozone, water vapor, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Although CO<sub>2</sub> is the most abundant GHG, other GHGs are less abundant but have higher global warming potential than CO<sub>2</sub>. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO<sub>2</sub>, denoted as carbon dioxide equivalent (CO<sub>2</sub>e). GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

The project would construct improvements to the City’s existing Corporation Yard, including the addition of an electrical energy generating solar field. Based on the size of the project, there would be minimal construction-related GHG emissions. Construction of the project would require the use of construction equipment and worker vehicles that would generate GHG emissions. As previously described in Section 2.3.a, the BAAQMD has not established screening thresholds for construction-related GHG emissions general light industry projects. Therefore, GHG emissions during construction activities were not estimated. The project is relatively small compared with other screening criteria and would result in approximately 1.78 acres of ground disturbance. To reduce emissions, the BAAQMD requires that all project applicants ensure that all off-road vehicles and equipment comply with Transportation Control Measure TR22 of the 2017 Clean Air Plan, which requires all off-road engines to comply with Tier 3 or Tier 4 standards.<sup>53</sup> The project would comply with all measures required by the BAAQMD CEQA Air Quality Guidelines.<sup>54</sup> These include the following for GHG reduction:

- 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 Toxic Control Measures in 13 CCR Section 2485). Clear signage shall be provided for construction workers at all access points.

<sup>53</sup> The EPA and CARB established emission standards for new engines found in off-road equipment. There are four tiers of emission standards, which become increasingly more stringent the higher the tier. Tier 3 and 4 emission standards are met through advanced engine design with no or minimal use of exhaust gas after combustion

<sup>54</sup> Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines*. Available at: [https://www.baaqmd.gov/~/\\_media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~/_media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en). Accessed April 23, 2021.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- To the extent feasible, off-road construction diesel engines shall meet Tier 3 or Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines.

Compliance with the required BAAQMD measures combined with the size of the project would ensure that impacts are less than significant. In addition, the project would implement the following BMP to further reduce construction-related GHG emissions, as required by the California Green Building Standards Code:

- At least 65 percent of all construction waste or demolition material shall be recycled.<sup>55</sup>

With implementation of BMPs required by the BAAQMD and California Green Building Standards Code, construction-related GHG emissions would be less than significant.

As previously described in Section 2.3.a, the BAAQMD has established screening thresholds for operational GHG emissions from general light industry projects at 121,000 square feet. The project would create approximately 8,360 square feet of new facilities, including 6,750 square feet for the tension fabric warehouse and 1,880 square feet for the materials and waste enclosure. However, operational activities and emissions at the Corporation Yard would not change as a result of the project. The new solar field would offset electrical use, creating a zero carbon footprint for the Corporation Yard. Therefore, operational activities would have no impact on GHG emissions.

**b. Would the project conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gases?**

The project would upgrade existing facilities at the City’s Corporation Yard and construct a new solar field, which would create minimal construction-related GHG emissions and would not change operational GHG emissions. Therefore, the project would not conflict with an applicable plan, policy, or regulation related to GHGs, and no impact would occur.

## 2.9 Hazards and Hazardous Materials

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Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<sup>55</sup> California Department of Resources Recycling and Recovery (CalRecycle), 2002. *Frequently Asked Questions: California Green Building Code*. Available at: <https://www.calrecycle.ca.gov/lgcentral/library/canddmodel/instruction/faq#diversion>. Accessed April 23, 2021.

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) 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, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

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

A significant impact may occur if a project would involve the use or disposal of hazardous materials as part of its routine operations or would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors.

Construction of the project would involve the transport, use, and disposal of potentially hazardous materials. These materials include paints, adhesives, surface coatings, cleaning agents, fuels, and oils that are typically associated with development of any construction project. As described in Chapter 1, Project Description, construction activities would be temporary, lasting approximately 4 to 6 months. These temporary construction activities involving the use, transport, storage, and disposal of hazardous materials would be conducted in compliance with all health and safety requirements, such as County and City General Plan policies, CCR Sections 337 through 340, Chapter 6.95 of California Health and Safety Code Article 1, and CCR Title 19, Public Safety, Division 2 (if required). Because the City and contractor would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal of potentially hazardous materials, the exposure of the public, construction workers, and environment to hazardous materials would be less than significant.

Operation at the Corporation Yard would not change as a result of the project. The project would result in better storage facilities for the hazardous materials stored on-site (primarily a small amount of fuel, less than 100 gallons of fuel stored in appropriate containers); therefore, no operational impact would occur.

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

A significant impact may occur if a project could create an upset or accident condition involving hazardous materials. No hazardous contamination sites are located within the vicinity of the project site. The closest hazardous contamination site is approximately 0.35 mile southwest of the project area, and thus there is no reasonably foreseeable release of hazardous materials from existing hazardous contamination.<sup>56,57</sup> Construction of the project would use small amounts of hazardous materials, such as diesel fuel. The BMPs implemented for the SMCWPPP (discussed further in Section 2.10, Hydrology and Water Quality) would contain minor spills during construction. Operation of the Corporation Yard would not change as a result of the project, with the exception of operation of the new solar field. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant.

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

A project-related significant adverse effect may occur if a project site is within 0.25 mile of an existing or proposed school site, and the project is projected to release hazardous emissions that would exceed regulatory thresholds and would pose a health hazard. The closest school is Half Moon Bay High School, located approximately 0.20 mile northwest of the project. As discussed under Sections 2.9.a and 2.9.b above, the project would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal of potentially hazardous materials, and would not create a significant hazard to the public or the environment related to hazardous materials. Therefore, the project would not handle hazardous materials in a way that would emit hazardous emissions. Common handling of small amounts of materials such as vehicle fuel is unlikely to impact the high school located uphill of the project. Therefore, this impact would be less than significant.

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

California Government Code Section 65962.5 requires various State agencies to compile lists of hazardous waste disposal facilities, unauthorized release from underground storage tanks, contaminated drinking water wells, and solid waste facilities from which there is known migration of hazardous waste, and to submit such information to the Secretary for Environmental Protection on at least an annual basis. In meeting the provisions in California Government Code Section 65962.5, commonly referred to as the “Cortese List,” database resources such as EnviroStor and GeoTracker provide information regarding identified facilities. According to EnviroStor<sup>58</sup> and GeoTracker,<sup>59</sup> no hazardous contamination sites are

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<sup>56</sup> State Water Resources Control Board (State Water Board). 2021. GeoTracker. Available at: <https://geotracker.waterboards.ca.gov/map/>. Accessed September 10, 2021.

<sup>57</sup> California Department of Toxics Substances Control (DTSC). 2021. EnviroStor. Available at: <https://www.envirostor.dtsc.ca.gov/public/map>. Accessed September 10, 2021.

<sup>58</sup> California Department of Toxics Substances Control (DTSC). 2021. EnviroStor. Available at: <https://www.envirostor.dtsc.ca.gov/public/map>. Accessed September 10, 2021.

<sup>59</sup> State Water Resources Control Board (State Water Board). 2021. GeoTracker. Available at: <https://geotracker.waterboards.ca.gov/map/>. Accessed September 10, 2021.

located within the vicinity of the project site. The closest hazardous contamination site is approximately 0.35 mile southwest of the project area, and thus there is no reasonably foreseeable release of hazardous materials from existing hazardous contamination. Therefore, no impact would occur.

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

The project site is not located within an airport land use plan or within 2 miles of a public airport. Therefore, the project would not result in a safety hazard for people using the project area, and no impact would occur.

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

A significant impact may occur if a project were to interfere with roadway operations used in conjunction with an emergency response plan or emergency evacuation plan or would generate sufficient traffic to create traffic congestion that would interfere with the execution of such a plan.

The nearest emergency evacuation route is SR-92.<sup>60</sup> SR-1 and SR-92 provide the only evacuation routes into and out of the City. Construction of the Corporation Yard upgrades would result in minimal amounts of traffic related to worker trips, delivery of materials, and disposal of excavated soils. The project would be constructed at the eastern end of Stone Pine Road, approximately 0.1 mile south of SR-92. Construction traffic would not impede public access and would not interfere with any adopted emergency response plan or emergency evacuation plan. The proposed improvements to the Corporation Yard would not generate additional traffic. Construction activities and staging would occur on the project parcel and would not affect the public right-of-way. As required by Section 506.1.4 of the Fire Code Ordinance, the electric gate would be provided with Key Switch for fire access. Therefore, the project would not impair the implementation of or physically interfere with an emergency response plan or emergency evacuation plan, and no impact would occur.

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

A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could affect persons or structures in the area in the event of a fire. The project is served by the Coastside Fire Protection District (CFPD). The Half Moon Bay Fire Station is approximately 1.2 miles southwest of the project area.

The project site is located on the eastern edge of an established residential development and is located adjacent to a Very High Fire Hazard Severity Zone (VHFHSZ).<sup>61</sup> The closest VHFHSZ is at the eastern edge of the property. According to the Association of Bay Area Governments, the majority of the project area is also in the wildland urban interface (WUI).<sup>62</sup> The WUI is best described as an area where housing developments are interspersed in an area dominated by wildland vegetation subject to wildfire.

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<sup>60</sup> City of Half Moon Bay. 2013. *General Plan. Circulation Element*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/187/2013-Circulation-Element-PDF>. Accessed November 12, 2021.

<sup>61</sup> California Department of Forestry and Fire Protection (CAL FIRE). 2007. Fire Hazard Severity Zone Viewer. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed September 10, 2021.

<sup>62</sup> Association of Bay Area Governments. 2020. Wildland-Urban Interface Fire Threat Interactive Map. Available at: <https://mtc.maps.arcgis.com/home/item.html?id=d45bf08448354073a26675776f2d09cb>. Accessed September 10, 2021.

However, the improvements to the existing Corporation Yard facilities would improve the safety of the Corporation Yard by including upgrades to meet CFPD requirements, particularly new water service, sprinklers, and fire hydrant. The paved access road would improve access for emergency vehicles. Therefore, the project would not expose more people or infrastructure to danger from wildland fires, and no impact would occur.

## 2.10 Hydrology and Water Quality

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

### Environmental Evaluation

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

Activities associated with construction of the project could have a significant impact if they resulted in violation of waste discharge requirements under the San Francisco Bay RWCQB's Municipal Regional Stormwater NPDES Permit from contaminated runoff entering the stormwater system.

The SMCWPPP is a partnership of the City and County Association of Governments, each incorporated city and town in the county, and the County, which share a common NPDES permit. The Municipal

Regional Stormwater NPDES Permit was issued by the San Francisco Bay RWQCB<sup>63</sup> in compliance with the San Francisco Bay Basin Water Quality Control Plan<sup>64</sup> and the NPDES Program. Participating agencies (including the County and City) must comply with the provisions of the countywide permit by ensuring that new development and redevelopment mitigate, to the maximum extent practicable, water quality impacts from stormwater runoff during both construction and operational periods of projects.

## **CONSTRUCTION**

Construction of the Corporation Yard improvements would be required to implement a SWPPP under the State Water Boards Construction General Permit Order 2009-009-DWQ,<sup>65</sup> Municipal Regional Stormwater NPDES Permit,<sup>66</sup> and SMCWPPP.<sup>67</sup> The SWPPP must include site-specific BMPs that are designed to prevent runoff from construction areas to reduce potential impacts to surface water quality during project construction. The SWPPP would also include design elements and BMPs for construction areas, such as fueling and equipment washing areas and trash and hazardous material storage areas. No construction would occur during major rain events, minimizing any chance of runoff from the site. Major rain events would be considered as a prediction of 0.25 inch or more in 24 hours.

Construction of the Corporation Yard improvements would require excavation and grading for the access road and parking areas and foundations for the new warehouse and materials enclosure. Excavation would also be required for the solar panel supports and fenceposts. Excavation and grading could result in an increase in erosion and sedimentation from the project area into Pilarcitos Creek. Construction materials and construction waste, such as old asphalt and other debris, could enter Pilarcitos Creek. The freshwater marsh located in the northwest corner of the project site is upslope of construction areas, would be fenced, and would not be impacted. Construction activities associated with the Corporation Yard improvements would require the presence of construction vehicles, heavy equipment and materials, and construction crews. In addition to stormwater runoff and potential resulting water quality and sedimentation impacts, there is the potential for hazardous materials, including petroleum products associated with diesel vehicle and equipment use and contaminants from paving materials, concrete mixing, pouring and washout, and sanitary facilities, to enter Pilarcitos Creek and contribute pollutants to Pilarcitos Creek that can affect water quality and may violate water quality standards if left uncontrolled. Construction activities for the Corporation Yard improvements would last approximately 4 to 6 months and would occur only during dry weather conditions to the extent feasible.

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<sup>63</sup> San Francisco Regional Water Quality Control Board (RWQCB). 2015. *Municipal Regional Stormwater NPDES Permit*. California Regional Water Quality Control Board, San Francisco Bay Region. Order No. R2-2015-0049. NPDES Permit No. CAS612008. November 19. Available at: <https://www.cleanwaterprogram.org/images/uploads/R2-2015-0049.pdf>. Accessed November 15, 2021.

<sup>64</sup> San Francisco Regional Water Quality Control Board (RWQCB). 2017. *San Francisco Bay Basin Water Quality Control Plan*. California Regional Water Quality Control Board, San Francisco Bay Region. May 4. Available at: [https://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/planningtmdls/basinplan/web/docs/BP\\_all\\_chapters.pdf](https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf). Accessed November 15, 2021.

<sup>65</sup> California Water Boards. 2021. *Construction Stormwater Program Website*. Available at: [https://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.html](https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html). Accessed November 15, 2021.

<sup>66</sup> San Francisco Regional Water Quality Control Board (RWQCB). 2015. *Municipal Regional Stormwater NPDES Permit*. California Regional Water Quality Control Board, San Francisco Bay Region. Order No. R2-2015-0049. NPDES Permit No. CAS612008. November 19. Available at: <https://www.cleanwaterprogram.org/images/uploads/R2-2015-0049.pdf>. Accessed November 15, 2021.

<sup>67</sup> County of San Mateo. 2020. *San Mateo Countywide Water Pollution Prevention Program. Construction Webpage*. Available at: <https://www.flowstobay.org/construction>. Accessed November 15, 2021.



The project would be required to comply with the Construction General Permit and SMCWPPP and to develop a SWPPP. The project would create approximately 54,260 square feet of new impervious surface. Stormwater BMPs under the SWPPP include, but are not limited to:

- Attach the SMCWPPP's construction BMP plan sheet to project plans and require the contractor to implement applicable BMPs on the plan sheet.
- Create temporary erosion controls to stabilize all denuded areas until permanent erosion controls are established.
- Perform clearing and earth-moving activities only during dry weather.
- Trap sediment on-site using BMPs, such as sediment basins or traps, earthen dikes or berms, silt fences, check dams, compost blankets or jute mats, covers for soil stockpiles, etc.
- Protect adjacent properties and undisturbed areas from construction impacts using vegetative buffer strips, sediment barriers, dikes, mulching, or other areas, as appropriate.
- Limit construction access routes and stabilize designated access points.
- Do not clean, fuel, or maintain vehicles on-site, except in a designated area where wash water is confined and treated.
- Store, handle, and dispose of construction materials/wastes properly to prevent contact with stormwater.
- Train and provide instruction to all employees/subcontractors regarding construction SWPPP BMPs.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, rinse water from architectural copper, and non-stormwater discharges to storm drains or watercourses.

Implementation of the SWPPP, as required by law, would prevent construction of the Corporation Yard upgrades from violating any water quality standards or waste discharge requirements or otherwise substantially degrading surface water or groundwater quality, and would reduce potentially significant impacts to a less-than-significant level.

## **OPERATION**

The project would add approximately 54,260 square feet (1.25 acres) of impervious surface area to the Corporation Yard. This additional impervious surface area would increase the stormwater runoff volume and rate compared with existing conditions, which could in turn accelerate soil erosion and loss of topsoil if stormwater were conveyed onto adjacent undeveloped land.

The project would be required to comply with the C.3 Regulated Projects Checklist, as required by the SMCWPPP. A C.3 regulated project is one that creates or replaces 10,000 or more square feet of impervious surface.

In addition, the project would be required to adhere to the City's Low Impact Development requirements. The City has developed the GIP, which requires construction projects to prioritize green infrastructure to capture stormwater. Stormwater from the project site drains overland to Pilarcitos Creek. Stormwater runoff would be channeled through swales or channels lined with natural vegetation before entering Pilarcitos Creek, which would provide biotreatment of stormwater and meets the requirements of the

GIP.<sup>68</sup> Under the GIP and C.3 Regulated Projects Guide, the swales or channels would be sized to contain a flow of runoff resulting from a rainfall intensity of 0.2 inch per hour. This method of sizing requires the surface treatment area to be 4 percent of the total impervious surface area.<sup>69</sup> The Corporation Yard, including the approximately 54,260 square feet of new impervious surface area, would have total of approximately 57,165 square feet of impervious surface area (including the new construction and existing house and barn). Therefore, the project would require approximately 2,286 square feet (4 percent) of stormwater channels.

The project would remove the existing materials enclosure, which is within the 50-foot riparian buffer area, and construct a new materials enclosure that is outside of the 50-foot riparian buffer and drained to the sewer system; therefore, pollutant runoff from the materials enclosure would be reduced or eliminated. Therefore, project operation would not violate any water quality standards or waste discharge requirements or degrade water quality, and operational impacts would be less than significant.

Erosion and sedimentation may temporarily increase post-construction because of soils that have been loosened and changes in drainage patterns. Improvements to the Corporation Yard could temporarily result in an increase in the levels of urban pollutants and litter entering Pilarcitos Creek. Pollutants in post-construction runoff from the Corporation Yard could include sediment and materials such as vehicle fuel, oils, and lubricants used in Corporation Yard vehicles. However, all earth-moving aspects of the project is anticipated to be completed by October 15, which is the start of the rainy season. The construction of the warehouse may be completed at a later date. Therefore, the project site is anticipated to be stabilized by reseeding with native seeds prior to October 15. If the project is not completed and stabilized by October 15, the contractor would employ the required site-specific BMPs included in the SWPPP that are designed to prevent runoff from construction areas (see Appendix A). Once complete; construction equipment, building materials, and chemicals, including cleaning materials and fuel, oils, and lubricants, would be stored inside the warehouse, and the location and drainage of new materials enclosure would lead to an overall decrease in runoff pollutants. Therefore, post-construction runoff from the Corporation Yard improvements would not result in a violation of any water quality standards or waste discharge requirements, and this impact would be less than significant.

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

A potentially significant impact would occur if a project includes deep excavations resulting in the potential to interfere with groundwater movement, the withdrawal of groundwater, or paving of existing permeable surfaces important to groundwater recharge. The project would include minor excavation and grading (to a maximum depth of 5 feet) for roads, a parking area, and concrete foundations for the warehouse and materials enclosure, which would not impact the groundwater table. No impact would occur from excavation.

Project construction would be served by the Coastside County Water District (CCWD) water supply system. The Corporation Yard has existing water service from CCWD. Additional operational water use would include periodic washing of solar panels, which would require approximately 2,000 gallons per year over existing use. The project would upgrade existing Corporation Yard facilities. It would not

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<sup>68</sup> City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1>. Accessed November 15, 2021.

<sup>69</sup> San Mateo Countywide Water Pollution Prevention Program. January 2020. *C.3 Regulate Projects Guide*. Available at: [https://www.flowstobay.org/wp-content/uploads/2020/03/SMCWPPP-C.3-Regulated-Project-Guide-High-Res\\_021220\\_0.pdf](https://www.flowstobay.org/wp-content/uploads/2020/03/SMCWPPP-C.3-Regulated-Project-Guide-High-Res_021220_0.pdf). Accessed November 15, 2021.

increase the density or population of the City and would not reduce water supply reliability or impact groundwater withdrawal. Development of the project would not include any groundwater wells.

The project area is located within the State Water Board San Francisco Bay Hydrologic Region. The project area is underlain by an alluvial aquifer referred to as the Half Moon Bay Terrace groundwater basin, which supplies limited water for domestic and municipal uses (golf courses). Groundwater in the project area flows from east to west, discharging into the Pacific Ocean.<sup>70,71</sup>

The project would result in an increase in impervious surface area, adding approximately 64,000 square feet (1.47 acres) of impervious surface area to the existing Corporation Yard. Impervious surfaces prevent the infiltration of runoff into the underlying soil and can interfere with groundwater recharge. According to the CCWD, there are no municipal water supply wells in the vicinity of the project.<sup>72</sup> Runoff from the Corporation Yard drains to Pilarcitos Creek or percolates into the groundwater table. Therefore, the project would not substantially interfere with groundwater recharge, and no impact would occur.

**c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

**i. Result in substantial erosion or siltation on- or off-site?**

Planned earthwork and grading activities on the project site would involve a total cut and fill of approximately 5,285 cubic yards. The project site slopes gradually to the southwest to Pilarcitos Creek, and all project components would be required to implement erosion control measures as discussed under Section 2.10.a.

Construction of the project would include implementation of SWPPP BMPs under the State Water Board General Construction Permit and SMCWPPP. In addition, the project would comply with Mitigation Measure BIO-3 to minimize impacts to Pilarcitos Creek. The existing impoundment in the northwest corner of the project area is upslope of the construction areas and would be protected during construction. As discussed under Section 2.10.a, operational stormwater flows would continue to be directed to Pilarcitos Creek through new vegetated channels or swales. Operation of the project would result in an increase of impervious surface compared with existing conditions (approximately 54,260 square feet). However, this includes replacing two existing unpaved access roads and parking/materials storage areas with paved surfaces. The existing unpaved areas are potentially more susceptible to erosion. The Corporation Yard improvements would include construction of vegetated stormwater channels that would have adequate capacity for the increase in drainage; therefore, the project would not substantially alter the existing drainage pattern in a manner that would cause erosion. The project site would not alter the course of a stream or river. Therefore, the project would not substantially alter the existing drainage pattern of the site resulting in substantial erosion or siltation, and the impact would be less than significant.

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<sup>70</sup> California Department of Water Resources (DWR). 2021. Groundwater Basin Boundary Assessment Tool. Available at: <https://gis.water.ca.gov/app/bbat/>. Accessed November 15, 2021.

<sup>71</sup> California Department of Water Resources (DWR). 2014. *Bulletin 118 – Half Moon Bay Terrace Groundwater Basin*. Available at: [https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2\\_022\\_HalfMoonBayTerrace.pdf](https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2_022_HalfMoonBayTerrace.pdf). Accessed April 26, 2021.

<sup>72</sup> Coastside County Water District (CCWD). 2020. *District Maps Webpage*. Available at: <http://www.coastsidewater.org/distribution/district-maps.html>. Accessed November 15, 2021.

**ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

A significant impact may occur if a project results in increased runoff volumes during construction or operation of the project that would result in flooding conditions affecting the project site or nearby properties. There are no flooding hazards in the project area. As described in Sections 2.10.a and 2.10.b, the project would result in a relatively small increase in impervious surface area (approximately 64,000 square feet) and would construct new vegetated stormwater swales or channels that would have adequate capacity to contain runoff from the additional square footage. Therefore, the project would not increase the rate or amount of surface runoff in a manner that would result in flooding, and the impact would be less than significant.

**iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Stormwater from the project site flows overland to Pilarcitos Creek, which is in an area of minimal flood hazard, and FEMA maps do not show a flood hazard zone outside the banks of Pilarcitos Creek downstream of the project.<sup>73</sup> There is no known history of flooding from Pilarcitos Creek on the project site.<sup>74</sup> As described in Sections 2.10.a and 2.10.b, the project would result in a relatively small increase in impervious surface area (approximately 54,260 square feet). Stormwater improvements would meet the requirements of the City's GIP and have capacity to contain runoff from the increase in impervious surface area. Therefore, the project would not increase the rate or amount of surface runoff in a manner that would exceed the capacity of the City's stormwater system, and the impact would be less than significant.

**iv. Impede or redirect flood flows?**

A significant impact may occur if a project were located in a flood hazard area and would impede or redirect flood flows. The project is not mapped in a flood hazard zone and is not located in an area with known localized flooding issues;<sup>75</sup> therefore, the project would not impede or redirect flood flows, and no impact would occur.

**d. Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?**

The project is not located in a flood hazard or seiche zone.<sup>76</sup> The project is approximately 1.2 miles from the Pacific Ocean. According to the Department of Conservation *San Mateo County Tsunami Hazard Areas* viewer, tsunami floodwaters would travel up Pilarcitos Creek to within 100 feet of the project site

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<sup>73</sup> Federal Emergency Management Agency (FEMA). 2020. FEMA Flood Map Service Center. Available at: <https://msc.fema.gov/portal/search?AddressQuery=909%20Grandview%20Boulevard%20Half%20Moon%20Bay%20CA#searchresultsanchor>. Accessed November 15, 2021.

<sup>74</sup> Seeley, Todd, Director of Public Works, City of Half Moon Bay. 2021. Personal Communication. Response to RFI #3.

<sup>75</sup> Federal Emergency Management Agency (FEMA). 2020. FEMA Flood Map Service Center. Available at: <https://msc.fema.gov/portal/search?AddressQuery=909%20Grandview%20Boulevard%20Half%20Moon%20Bay%20CA#searchresultsanchor>. Accessed November 15, 2021.

<sup>76</sup> City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends, and Opportunities Assessment*. pp. 5-79 to 5-87. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/174/HMB-Existing-Conditions-Report-PDF>. Accessed November 15, 2021.

and 1,000 feet of existing Corporation Yard facilities but would not enter the project site.<sup>77</sup> The project would upgrade existing Corporation Yard facilities but would not change existing operations at the Corporation Yard. Therefore, the project would not risk the release of pollutants due to project inundation from a tsunami, and no impact would occur.

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

The project is located in the Lower Pilarcitos Creek Subbasin of the Half Moon Bay Terrace groundwater basin. The Half Moon Bay Terrace groundwater basin does not have a sustainable groundwater management plan and is on the list of groundwater basins with low priority for developing such a plan. The project would rely on municipal water sources for construction operation and would not obstruct groundwater recharge. Therefore, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan, and no impact would occur.

The project would abide by all requirements of the SMCWPPP, San Francisco Bay RWQCB Municipal Regional Stormwater NPDES Permit, and the City’s GIP.<sup>78,79</sup> The project would not conflict with the Water Quality Control Plan for the San Francisco Bay Basin because it would comply with all applicable requirements of both the Municipal Regional Stormwater NPDES Permit and the SMCWPPP permit, and no impact would occur.

**Mitigation Measures**

The project shall comply with Mitigation Measure BIO-3 to minimize impacts to wetlands and waters.

**2.11 Land Use and Planning**

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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<sup>77</sup> State of California. 2021. *Tsunami Hazard Area Map. San Mateo County*. Produced by California Geological Survey, California Governor’s Office of Emergency Services, and AECOM. Available at: <https://www.conservation.ca.gov/cgs/tsunami/maps/san-mateo>. Accessed November 15, 2021.

<sup>78</sup> San Francisco Regional Water Quality Control Board (RWQCB). 2015. *Municipal Regional Stormwater NPDES Permit*. Order No. R2-2015-0049. NPDES Permit No. CAS612008. Available at: [https://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stormwater/Municipal/R2-2015-0049.pdf](https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2-2015-0049.pdf). Accessed November 15, 2021.

<sup>79</sup> City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1>. Accessed November 15, 2021.

## **Environmental Evaluation**

### **a. Would the project physically divide an established community?**

The project would upgrade the existing Corporation Yard facilities. It would not include any lot line adjustment or change in existing parcels. It would not physically divide an established community, and no impact would occur.

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

A project would normally have a significant impact related to land use consistency if it would be inconsistent with the General Plan or its elements, a local coastal plan, or adopted environmental goals or policies, or if it would require a General Plan amendment or zone change.

The project would upgrade the City's existing Corporation Yard facilities and enhance environmental protections. The property is currently zoned as Urban Reserve (U-R) and, under the LCLUP, is designated as Public Facilities and Institutions, which includes educational, governmental, agricultural, habitat restoration, and institutional uses, such as public works and utilities yards and maintenance buildings. The LCLUP recommends rezoning this property to Public/Quasi Public (P-S). Per CCC guidance, the LCLUP is the primary guiding land use document and takes precedence when there are inconsistencies between the LCLUP and the zoning code. The proposed improvements to the City-owned property are consistent with the LCLUP land use designation and the Public/Quasi Public (P-S) zoning designation. The project is located within the California Coastal Zone.

The project would add a solar field that would provide electricity to the existing Corporation Yard facilities. The Corporation Yard would eliminate natural gas service upon completion of solar (PV) facilities. The project would allow the City to increase sustainability and shift away from fossil fuels by providing solar electrical energy to its Corporation Yard.

As shown in Table 2.11-1, the project was reviewed for consistency with policies relating to the 2020 LCLUP and City Zoning Ordinance (Title 18),<sup>80</sup> and the project was found to be consistent with City policies and development regulations. With the exception of the new solar field, the project would not change operations at the existing Corporation Yard, which is an approved use under the LCLUP Public Facilities and Institutions land use category. As discussed in Section 2.4, Biological Resources, the project would comply with policies related to ESHAs, special-status species, and heritage trees, and would improve protection of sensitive habitat and species by relocating the materials enclosure out of the 50-foot riparian setback and constructing a wildlife corridor with frog/snake tunnels under the access road. Operationally, the project would improve the City's sustainability by increasing reliance on solar energy and would not otherwise conflict with any other environmental policy expressed in the 2020 LCLUP. Additionally, the project does not propose any other new, expanded, or modified land use in the project area and would not conflict with the existing and surrounding uses. Therefore, the project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

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<sup>80</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 2. Development.* Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed November 15, 2021.

**Table 2.11-1. Project Consistency with LCLUP Policies and Municipal Code**

Policy or Code	Consistency
<p><b>Policy 2-24. Infrastructure Capacity and Design.</b> Design public infrastructure, including water, sewer, stormwater management, communications, energy, and transportation systems, to meet the needs of anticipated development without inducing growth, support new technology, and shift away from fossil fuels. Infrastructure shall be designed according to best practices for sustainability, maintenance, aesthetics, resilience, and durability. As applicable, new infrastructure shall be undergrounded.</p>	<p><u>Consistent.</u> The project would remove existing gas infrastructure and include a solar field, which would generate adequate electrical energy to achieve a net zero carbon footprint for the Corporation Yard.</p>
<p><b>Policy 6-8. Biological Study.</b> For development proposed in and adjacent to ESHA and projects for which the preliminary biological inventory indicates the presence or potential for sensitive species or habitat, require the preparation of a detailed biological study by a City-approved, qualified professional to be submitted prior to development review and prior to any ground disturbance.</p>	<p><u>Consistent:</u> The existing access road crosses a wildlife corridor potentially used by California red-legged frog. The City and its consultants prepared a BRR and preliminary wetland delineation. On the basis of these, the City consulted with an expert on California red-legged frog to design a wildlife corridor to protect special-status snakes and frogs from the new access road (see Section 2.4, Biological Resources).</p>
<p><b>Policy 6-15. Wildlife Corridors.</b> Preserve, protect, and enhance wildlife corridors, including watercourses, connecting ESHA and open space areas to allow for seasonal migration as well as daily movements for foraging and dispersal.</p>	<p><u>Consistent:</u> The existing access road crosses a wildlife corridor potentially used by California red-legged frog. The City consulted with an expert on California red-legged frog to design a wildlife corridor to protect special-status snakes and frogs from the new access road (see Section 2.4, Biological Resources).</p>
<p><b>Policy 6-18. Standards in Terrestrial ESHA and Terrestrial ESHA Buffers.</b> Site and design new development permitted in or adjacent to terrestrial ESHA to avoid adverse impacts to ESHA. Methods for avoiding impacts include, but are not limited to, utilizing raised boardwalks, installing informative signage and exclusion fencing, and implementing construction best management practices.</p>	<p><u>Consistent:</u> The new access road includes a fenced wildlife corridor with frog/snake tunnels under the road to protect ESHAs, potential ESHAs, and special-status frogs and snakes (see Section 1.5, Proposed Project).</p>
<p><b>Policy 6-41. Wetland Buffer Zones.</b> Wetland buffer zones for proposed development shall extend a minimum of 100 feet landward from the edge of the delineated wetland.</p>	<p><u>Consistent.</u> The project would provide a 100-foot buffer zone around the existing freshwater marsh impoundment. Removal of the existing fencing within the 100-foot buffer zone would increase the habitat available to special-status species and assist in directing them into the wildlife corridor.</p>
<p><b>Policy 6-49. Riparian Corridor Buffers.</b> Buffer zones shall be required for development proposed along both sides of riparian corridors to provide habitat protection and space for meander belts and vegetation growth. Riparian buffer zones shall apply as follows:</p> <p>a. For all perennial watercourses (i.e., Pilarcitos Creek), buffer zones shall extend a minimum of 50 feet from the outer limit of the riparian vegetation or 100 feet from the top of bank, whichever is greater.</p>	<p><u>Consistent.</u> The project would provide a 50-foot buffer zone around the existing riparian corridor and would relocate the materials enclosure outside of the 50-foot buffer zone.</p>
<p><b>Municipal Code 7.40 Heritage Trees.</b> The Heritage Tree Ordinance requires permits for the removal of heritage trees and replacement of such trees on a one-to-one basis. It also requires a tree protection plan be prepared by a certified arborist if grading, excavation, demolition, or construction activity is performed within the drip line of a heritage tree.</p>	<p><u>Consistent.</u> The project would remove 12 trees and replace them at a 1-to-1 ratio. Mitigation Measure BIO-5 would require compliance with the Heritage Tree Ordinance. The City would have a tree protection plan prepared by a certified arborist prior to construction.</p>

## 2.12 Mineral Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **Environmental Evaluation**

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

A significant impact may occur if a project site is located in an area used or available for extraction of a regionally important mineral resource, if a project would convert an existing or future regionally important mineral extraction use to another use, or if a project would affect access to a site used or potentially available for regionally important mineral resource extraction.

The project is located in an area zoned Mineral Resource Zone (MRZ)-3 for aggregate mineral resources.<sup>81</sup> MRZ-3 is defined as an area containing mineral deposits, the significance of which cannot be evaluated from available data. Neither the project site nor the surrounding area is identified as an area containing mineral deposits of statewide or regional significance. The closest identified aggregate resource section is at Pilarcitos Quarry, approximately 2.2 miles northeast. Therefore, no impacts to mineral resources of statewide or regional significance would occur.

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

A significant impact would occur if a project were located in an area used or available for extraction of a locally important mineral resource and the project converted an existing or potential future locally important mineral extraction use to another use, or if a project affected access to a site in use or potentially available for locally important mineral resource extraction.

Neither the project site nor the surrounding area is identified as an area containing mineral deposits of local significance.<sup>82</sup> Therefore, no impacts to mineral resources of local significance would occur.

<sup>81</sup> California Department of Mines and Geology (CDMG). 1982. Mineral Resource Sectors. South San Francisco Bay Production-Consumption Region, Half Moon Bay Quadrangle, Special Report 143, Plate 2.3 and Plate 2.73. Available at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc>. Accessed November 15, 2021.

<sup>82</sup> City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends, and Opportunities Assessment*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/174/HMB-Existing-Conditions-Report-PDF>. Accessed November 2021.



## 2.13 Noise

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Result in generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Environmental Evaluation

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

The residential uses west of the project area represent the majority of the sensitive receptors in the vicinity of the project. The nearest residences are approximately 75 feet from the project site.

The City has established restrictions limiting construction and similar noise-generating activities from 7:00 a.m. to 6:00 p.m., Monday through Friday; 8:00 a.m. to 6:00 p.m., Saturdays; and 10:00 a.m. to 6:00 p.m., Sundays and holidays. The City Engineer may approve exceptions to these hours, if necessary, to facilitate the orderly completion of work and minimize disruption to the community.<sup>83</sup> The project contractor would be required to comply with construction hour restrictions.

Construction activities would generate noise that would vary over the 4-to-6-month construction period and would include equipment such as milling machine, paver, dump truck, asphalt trucks, cement mixer, motor grader, scraper, bulldozer, backhoe, boom truck, forklift, rubber-tired loader, motor grader, steel drum roller, crane or scissor lift, water truck, and hand tools such as saws and hammers. Much of this equipment is kept on-site. There would be secondary noise from construction worker vehicles and vendor deliveries. During construction, noise-generating activities would be limited to the allowable hours in the City’s noise ordinance. No nighttime construction would occur. Because construction noise would comply with local noise regulations, impacts related to construction noise would be less than significant.

The existing activities of the Corporation Yard would not change as a result of the project, with the exception of the new solar yard. The solar panels would be fixed and would not emit noise. Therefore,

<sup>83</sup> City of Half Moon Bay. 2019. *Chapter 14.40. Hours of Construction*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1440.html#14.40>. Accessed April 21, 2021.

stationary or operational noise would not change compared with existing conditions, and no operational impacts would occur.

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

Construction activities (e.g., ground-disturbing activities, including movement of heavy construction equipment and hauling of demolition debris and soil from the project site) may generate localized groundborne vibration and noise. Blasting or pile-driving activities would not occur during construction of the project. Generally, construction-related groundborne vibration is not expected to extend beyond 25 feet from the generating source. The activities closest to the adjacent residences include constructing a new roadway and gate entrance for the Corporation Yard, and installing wildlife fencing around the impoundment in the northwest corner of the property. Construction equipment for the roadway could include a compactor machine (vibratory pad or drum roller). The closest sensitive receptors are residences approximately 75 feet from the western edge of the project area. Based on the distance of more than 25 feet to sensitive receptors, groundborne vibration from on-site construction is not anticipated for residences. Hauling of soils and debris could generate vibrations along local haul routes. The project is anticipated to require a total of between 49 and 74 round-trip trucks trips over the 4- to-6-month construction period depending on truck capacity; approximately 49 haul truck round trips based on a 12-CY capacity truck, 59 round trip truck trips based on a 10-CY capacity truck, or 74 round trip truck trips based on an 8-CY capacity truck. The project would be required to adhere to the City Noise Ordinance as a standard condition of approval. Therefore, any annoyance to residents along local haul routes would be short term and temporary, and impacts related to groundborne noise or vibration would be less than significant.

Operations at the existing Corporation Yard would not change as a result of the project; therefore, no impacts related to operational vibrations would occur.

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

The project is located approximately 4.3 miles from the nearest airport, Half Moon Bay Airport. It is not located within an area with an airport land use plan or within 2 miles of an airport; therefore, no impact would occur.

## 2.14 Population and Housing

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

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

City and County General Plans develop growth plans and projections for the areas in their jurisdictions. A significant impact would occur if a project included a General Plan amendment, which could result in an increase in population over that projected in the adopted General Plan, or if a project would induce substantial growth on the project site or surrounding area.

Construction job opportunities created as a result of the project are not expected to result in substantial population growth in the area. The work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the time frame during which their specific skills are needed. Additionally, the construction workers would likely be supplied from the region’s labor pool. Construction workers would not be likely to relocate their household as a consequence of working on the project, and as such, significant housing or population impacts would not result from construction of the project. Therefore, there would be no construction-related population growth, and no impact would occur.

The project would construct improvements to the City’s existing Corporation Yard. Operations at the Corporation Yard would not change as a result of the project, and the project would not result in an increase in employment. Therefore, the project would not introduce new persons to the population, and no impact would occur.

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

The project would upgrade facilities at the City’s existing Corporation Yard. Therefore, the project would not displace people or housing, and no impact would occur.

## 2.15 Public Services

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Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>				
(a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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## **Environmental Evaluation**

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

The project would upgrade existing facilities at the City's existing Corporation Yard; therefore, it would not increase the population in the area or introduce a hazard and would not increase the need for fire protection services. The existing water distribution system on-site would be upgraded to include fire hydrants and sprinklers and would require approval from the CFPD.

A significant impact may occur if the CFPD could not adequately serve a project, and a new or physically altered fire station would be necessary. The project area receives fire protection services from the CFPD, a California Department of Forestry and Fire Protection (CAL FIRE) agency. The CFPD has three fire stations, the nearest of which (Fire Station 40) is at 1911 Main Street, Half Moon Bay, approximately 1.2 miles southwest of the project site. Fire Station 40 is staffed with one fire captain and two fire apparatus engineers and can provide a minimum response time of 2 minutes and maximum response time of 8 minutes to all portions of the City.<sup>84,85</sup> The project would not increase population or cause an increase in employees, and no impact to fire protection services would occur.

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

A significant impact may occur if the San Mateo County Sheriff's Department (Sheriff's Department), could not adequately serve a project, and a new or physically altered sheriff or police station would be necessary. The project area receives law enforcement services from the Coastside Patrol Bureau of the Sheriff's Department. The Coastside Patrol Bureau provides law enforcement services for over 60 percent of San Mateo County, including Half Moon Bay; has two substations, located in Half Moon Bay and Moss Beach; and is staffed with 27 full-time Deputy Sheriffs, four Sergeants, and one Lieutenant, as well as two full-time Community Policing deputies. The Half Moon Bay Substation is located approximately 0.9 mile southeast of the project site.

The project would upgrade existing facilities at the City's existing Corporation Yard; therefore, it would not increase the population in the area or introduce a hazard. The project would not cause an increase in employees. Therefore, the project would not increase the demand for public services, including police protection, and no impacts to police protection would occur.

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<sup>84</sup> Coastside Fire Protection District (CFPD). 2008. About Us. Available at: <https://www.coastsidefire.org/about-us>. Accessed October 18, 2021.

<sup>85</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 7. Environmental Hazards*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP>. Accessed October 18, 2021.

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

The project area is served by the Cabrillo Unified School District (CUSD). A significant impact may occur if the CUSD could not adequately serve a project, and a new or physically altered school or schools would be necessary. The CUSD has four elementary schools, one middle school, one high school, one alternative high school, and an adult education program. Between 2017 and 2019, enrollment in the district as a whole declined by approximately 200 students.<sup>86</sup> Enrollment in the school district as a whole is expected to decline by 51 elementary, 94 middle school, and 96 high school students, for a combined drop of 241 students between 2020 and 2024.<sup>87</sup>

The project would upgrade existing facilities at the City's existing Corporation Yard; therefore, it would not increase the population in the area or cause an increase in employees. The project would not increase the demand for public services, including schools, and no impact would occur.

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

A significant impact may occur if the project would result in the need for new or improved parks. Parks and recreation facilities that could be used by the residents of the project include parks operated by the City (Coastal Trail, Frenchman's Creek Park, Kehoe Park, Carter Park, Fernandez Park, Mac Dutra Plaza, Oak Avenue Park, Ocean View Park, Skate Park, and Smith Field), the County Parks Department (Pillar Point Bluff, Quarry Park, Mirada Surf, Moss Beach Park, Fitzgerald Marine Reserve, and Devil's Slide Trail are located between Half Moon Bay and Montara; and Tunitas Creek Beach, Memorial Park, Pescadero Creek Park, and Sam McDonald Park are located south of the City),<sup>88</sup> the California Department of Parks and Recreation (Half Moon Bay State Beach, including Dunes, Roosevelt, and Venice beaches; Montara State Beach and Gray Whale Cove State Beach to the north; and Burleigh H. Murray Ranch, Cowell Ranch State Beach, Año Nuevo State Park, and Big Basin Redwoods State Park to the south),<sup>89</sup> and Midpeninsula Regional Open Space District (Purisima Creek Redwoods, Skyline Ridge, and La Honda Creek Preserves on or near the coast).<sup>90</sup>

The City completed a Parks Master Plan in January 2019. The Master Plan provides planning for a 15-year period (2018 to 2033). The City currently provides approximately 5 acres of developed parks per

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<sup>86</sup> Cabrillo Unified School District (CUSD). 2019. *Cabrillo Unified School District Audit Report*. June 30. Available at: <https://app.eduportal.com/documents/view/739216>. Accessed October 18, 2021.

<sup>87</sup> Enrollment Projection Consultants. 2020. *Enrollment Forecast Findings and Projections*. October 31. Available at: [https://www.cabrillo.k12.ca.us/UserFiles/Servers/Server\\_18664976/File/Budget%20Advisory/2020-21%20Forecast%20Demographer%20Report%20for%20CUSD%20for%20Board%20Meeting.pdf](https://www.cabrillo.k12.ca.us/UserFiles/Servers/Server_18664976/File/Budget%20Advisory/2020-21%20Forecast%20Demographer%20Report%20for%20CUSD%20for%20Board%20Meeting.pdf). Accessed April 21, 2021.

<sup>88</sup> County of San Mateo Parks Department. 2021. *County Parks by Location*. Available at: <https://parks.smcgov.org/county-parks>. Accessed October 18, 2021.

<sup>89</sup> California Department of Parks and Recreation. 2020. *Find a California State Park*. Available at: <https://www.parks.ca.gov/ParkIndex/>. Accessed October 18, 2021.

<sup>90</sup> Mid-Peninsula Open Space Trust. 2020. *Find an Open Space Preserve*. Available at: <https://www.openspace.org/preserves>. Accessed October 18, 2021.

1,000 residents, which includes pocket and neighborhood parks and community and special parks. It does not include trails, county parks, natural open spaces, or beaches in the project area. The recommended standard identified in Chapter 5, Coastal Access and Recreation, of the 2020 LCLUP and the draft General Plan Healthy Community Element is 5 acres per 1,000 people.<sup>91</sup>

The project would upgrade existing facilities at the City’s Corporation Yard; therefore, it would not increase the population or the number of employees in the area. The project would not create a need for new or improved parks. No impact would occur.

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

A significant impact may occur if the project would result in the need for other new or improved public facilities. Other public facilities include the Half Moon Bay Library, which is part of the San Mateo County Libraries system. The Half Moon Bay Library, rebuilt in 2018, is a 22,000-square-foot facility that serves a 270-square-mile area. The new library provides both physical and digital collections from the San Mateo County Libraries system; technology services, including three-dimensional (3D) printing; free Wi-Fi hotspots; multilingual collections; literacy services; online high school; and space for community programs and events.<sup>92</sup>

The project would upgrade existing facilities at the City’s Corporation Yard; therefore, it would not increase the population or the number of employees in the area. Therefore, the project would not increase the demand for public services, including libraries, and no impact would occur.

## 2.16 Recreation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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<sup>91</sup> City of Half Moon Bay. 2019. *Parks Master Plan*. Available at: [https://www.half-moon-bay.ca.us/DocumentCenter/View/2161/Final-Master-Plan\\_12419v6](https://www.half-moon-bay.ca.us/DocumentCenter/View/2161/Final-Master-Plan_12419v6). Accessed October 18, 2021.

<sup>92</sup> City of Half Moon Bay. 2020. Half Moon Bay Library. Available at: <https://www.half-moon-bay.ca.us/322/Library>. Accessed October 18, 2021.

## Environmental Evaluation

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

A project would result in a significant impact to parks and recreation services if it would result in a significant increase in population from adding residential units. The project would upgrade existing facilities at the City’s Corporation Yard; therefore, it would not increase the population or the number of employees in the area. Therefore, the project would not increase the use of existing parks, and no impact would occur.

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

The project would upgrade existing facilities at the City’s Corporation Yard; therefore, it would not increase the population or number of employees in the area. The project does not include recreational facilities and would not require the construction or expansion of recreational facilities. No impact would occur.

## 2.17 Traffic and Circulation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

### REGIONAL AND LOCAL ACCESS

Regional access is provided by SR-92, located adjacent to and north of the project site, and SR-1, located approximately 0.5 mile west of the project. SR-1 and SR-92 are the only roads that provide connections to other parts of the county. Most neighborhoods connect to SR-1 but do not connect with each other. Local access is provided by Main Street and Stone Pine Road. Traffic on SR-92, SR-1, and Main Street can back up during peak hours, including rush hours on weekdays and tourist traffic on weekends.

## **PUBLIC TRANSIT**

The project site is served by San Mateo County Transit District(SamTrans) Bus Routes 17 and 294, which have stops approximately 0.1 mile north at Hilltop Mobile Home Park, 0.37 mile southwest at the junction of Main Street and Kelly Avenue, 0.4 mile northwest on SR-92 between Main Street and SR-1, and on Main Street between SR-92 and SR-1. The bus routes offer connections to Linda Mar in the City of Pacifica (via Bus Route 17) and Hillsdale Caltrain Station in the City of San Mateo (via Bus Route 294).

## **PEDESTRIAN/BICYCLE TRANSIT**

The City's existing multi-use trails—including the California Coastal Trail, Naomi Patridge Trail, and Pilarcitos Creek Trail—provide linkages that support coastal access for bicyclists and pedestrians. The project site is approximately 0.5 mile east of the Naomi Patridge Trail, which is a multi-use trail that parallels SR-1. The Naomi Patridge Trail is currently approximately 3.4 miles long and extends from Wavecrest Road in the south to Ruisseau Francais Avenue in the north on the west side, and from Ruisseau Francais Avenue to Roosevelt Boulevard on the east side. The nearest connection to the Naomi Patridge Trail is the Pilarcitos Creek Trail, approximately 0.36 mile west of the project site. The City plans to extend the Pilarcitos Creek Trail as a Class I multi-use trail from the California Coastal Trail in the west to John L. Carter Memorial Park in the east.<sup>93,94</sup> As discussed in Section 1.4, Land Use and Zoning, as a condition of the City's purchase agreement with POST, the City agreed to develop a public access trail adjacent to Pilarcitos Creek from the project property to connect to Carter Park (see Figure 1-3).<sup>95</sup> The proposed project solely addresses upgrades to the City's Corporation Yard. Development of a public trail is not part of the proposed project but would be pursued under a future project.

In addition to the Naomi Patridge Trail, the project is approximately 1.1 miles east of the 11.5-mile California Coastal Trail, a paved, Class 1 multi-use path that extends from Seymour Bridge 4.7 miles north to Pillar Point Harbor. An additional, partially paved segment of the trail extends approximately 2 miles south from Seymour Bridge to the Ritz Carlton Hotel. In the south, the multi-use path connects to the Cowell-Purisima Coastal Trail, an additional 3.6-mile segment of the California Coastal Trail.<sup>96</sup>

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

Under the 2019 revisions to the State CEQA Guidelines, changes to Levels of Service are no longer identified as an impact under CEQA. The new 2019 State CEQA Guidelines require analysis of impacts related to vehicle miles traveled (VMT) as a result of a project. VMT is the amount and distance of automobile traffic attributable to a project. The project would upgrade facilities at the existing Corporation Yard. It would not generate new operational traffic. Therefore, the project would not conflict with any plan, ordinance, or policy related to transportation, and no impact would occur.

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<sup>93</sup> City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 2.3 Coastal Access and Recreation*. Available at <https://www.half-moon-bay.ca.us/DocumentCenter/View/2337/Chapter-23-Coastal-Access-and-Recreation>. Accessed October 18, 2021.

<sup>94</sup> City of Half Moon Bay. 2019. *City of Half Moon Bay Bicycle and Pedestrian Master Plan*. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2243/Bicycle-and-Pedestrian-Master-Plan-Final?bidId=>. Accessed October 18, 2021.

<sup>95</sup> City of Half Moon Bay. 2020. 880 Stone Pine Purchase and Sale Agreement between Peninsula Open Space Trust and City of Half Moon Bay.

<sup>96</sup> Peninsula Open Space Trust. 2020. *Cowell-Purisima Coastal Trail webpage*. Available at: <https://openspacetrust.org/hike/cowell-purisima-trail/>. Accessed October 18, 2021.



Project construction would result in vehicle worker trips, haul trips, and vendor trips. The cut and fill could generate a total of about 49 to 74 haul trips over the 4- to-6-month construction period. The increase in traffic as a result of worker and haul trips would negligibly increase traffic at nearby traffic intersections and roadway segments, and would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness. In addition, haul and vendor trips would primarily occur during off-peak hours (9:00 a.m. to 3:00 p.m.). No impact would occur.

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

State CEQA Guidelines Section 15064.3 includes criteria for analyzing transportation impacts. Under Section 15064.3(b)(2), for transportation projects:

Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact.

The project would upgrade facilities at the City’s existing Corporation Yard. It would not increase the number of employees or the amount of vehicle use at the Corporation Yard and thus would not impact VMT. Therefore, the project would be consistent with State CEQA Guidelines Section 15064.3, and no impact would occur.

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

The project does not include any design features that would increase hazards. The project would upgrade facilities at the existing Corporation Yard, including construction of a paved access road and paved parking areas. The road alignment is still under review but would be designed to avoid sharp curves and be safe for Corporation Yard, emergency vehicle, and other traffic. The use of the road would be limited to Corporation Yard operations. Therefore, no impact would occur.

**d. Would the project result in inadequate emergency access?**

The project would upgrade facilities at the existing Corporation Yard, including construction of a paved access road and paved parking areas. The access road would be built to CFPD requirements, and as required by Section 506.1.4 of the City’s Fire Code Ordinance, the electric gate would be provided with a key switch for fire access. Therefore, the project does not have any elements that would result in inadequate emergency service, and no impact would occur.

## 2.18 Tribal Cultural Resources

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Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **Environmental Evaluation**

**a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

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

Under Assembly Bill (AB) 52, Native American correspondence and tribal consultation would be performed by the City. To date, there has been no response from tribal representatives regarding AB 52, and there are no known Tribal Cultural Resources within the project. Therefore, the project will have no impact to Tribal Cultural Resources.

## 2.19 Utilities and Service Systems

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Environmental Evaluation

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

#### WATER

Water for project construction and operation is supplied by the CCWD, which obtains its water supply from four sources. Water contained in Pilarcitos Lake and Crystal Springs Reservoir is purchased from the San Francisco Public Utilities Commission (SFPUC), and local water supplies are drawn from Pilarcitos Well Field and the Denniston Project (well and surface water). The CCWD serves 18,738 people in a 14-square-mile area, which has an average demand of 1.83 million gallons per day (mgd).<sup>97</sup> The CCWD has an Individual Supply Guarantee of 2.175 mgd, or approximately 794 million gallons per year, from the SFPUC, and purchases an average of 511 million gallons per year. In addition to the water from the SFPUC, CCWD obtains approximately 256 million gallons per year, or 0.70 mgd, from local sources during a non-drought year.<sup>98</sup> Per capita use in the district is approximately 57 and 110 gallons per capita per day for residential and gross water uses, respectively.

<sup>97</sup> Bay Area Water Supply and Conservation Agency. 2020. Coastside County Water District Service Area Webpage. Available at: <http://bawsca.org/members/profiles/coastside>. Accessed October 20, 2021.

<sup>98</sup> Coastside County Water District (CCWD). 2021. *2020 Urban Water Management Plan*. Available at: [https://www.coastsidewater.org/reports\\_and\\_studies/2020-Urban-Water-Management-Plan.pdf](https://www.coastsidewater.org/reports_and_studies/2020-Urban-Water-Management-Plan.pdf). Accessed October 20, 2021.

Construction activities would require a minimal amount of water for dust control and cement mixing. Water would be delivered to the project site by water truck. Operations at the Corporation Yard would not change as a result of the project with one exception—the solar field would require maintenance, including periodic washing of solar panels. Panel washing is expected to occur approximately twice a year and would require approximately 2,000 gallons of water per year, which is less than 0.001 percent of CCWD’s annual supply. Therefore, the project would not result in the relocation or construction of new or expanded water treatment facilities, and no impact would occur.

## **WASTEWATER**

Wastewater collection and treatment is provided by Sewer Authority Mid-Coastside (SAM), which receives average dry weather flow of approximately 1.5 mgd. The plant has capacity to treat up to 4 mgd in average dry weather flow and 15 mgd in peak wet weather flow (which includes infiltration of stormwater). The plant has not experienced flows that reached or exceeded maximum peak wet weather capacity since its expansion in the late 1990s.<sup>99</sup>

Construction of the project would produce minimal wastewater from construction crew use of portable toilets. The project would add two bathroom/shower rooms in the new warehouse; however, it would not change the number of Corporation Yard staff who currently use facilities in the existing on-site building. The project would also relocate the materials enclosure and add a French drain with connection to the existing sanitary sewer. The materials enclosure would be roofed, and the French drain would drain the enclosed area; therefore, the volume of drainage would be minimal. Therefore, operation of the project would produce a minimal permanent change in wastewater production, and the project would not result in the relocation or construction of wastewater treatment facilities. No impact would occur.

## **STORMWATER**

The project would demolish the existing trash and materials storage area, which is undrained and located partially within the 50-foot riparian buffer zone. This would be replaced by a new materials enclosure that would be roofed and supplied with a French drain connecting to the sanitary sewer system, thus drainage from the materials enclosure would not enter the storm drain system. The project would include a total of 54,260 square feet of new impervious surface area, which would drain by overland flow toward Pilarcitos Creek. The project would also include drainage improvements that meet the requirements of the GIP<sup>100</sup> to prevent sediment-laden runoff to Pilarcitos Creek. Therefore, the construction of new storm drainage facilities would not cause significant environmental impacts, and this impact would be less than significant.

The project would be required to implement a SWPPP under the Municipal Regional Stormwater NPDES Permit<sup>101</sup> and the SMCWPPP.<sup>102</sup> The SWPPP must include site-specific BMPs that are designed to prevent runoff from construction areas to reduce potential impacts to surface water quality during project construction. The plan would also include design elements and BMPs for construction areas, such as

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<sup>99</sup> Sewer Authority Mid-Coastside (SAM). 2019. *Sewer System Management Plan*. Available at: [https://samcleanswater.org/vertical/sites/%7B1307B359-C05A-436D-AC1C-9EB8D6FFB4A3%7D/uploads/Item\\_4D\\_Attachment\\_B\\_SSMP\\_2019\(2\).pdf](https://samcleanswater.org/vertical/sites/%7B1307B359-C05A-436D-AC1C-9EB8D6FFB4A3%7D/uploads/Item_4D_Attachment_B_SSMP_2019(2).pdf). Accessed October 21, 2021.

<sup>100</sup> City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. September. Available at: <https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1>. Accessed October 21, 2021.

<sup>101</sup> San Francisco Regional Water Quality Control Board (RWQCB). 2015. Municipal Regional Stormwater NPDES Permit. Order No. R2-2015-0049. NPDES Permit No. CAS612008. Available at: <https://www.cleanwaterprogram.org/images/uploads/R2-2015-0049.pdf>. Accessed October 21, 2021.

<sup>102</sup> County of San Mateo. 2020. San Mateo Countywide Water Pollution Prevention Program. Construction Webpage. Available at: <https://www.flowstobay.org/construction>. Accessed October 21, 2021.

fueling and equipment washing areas, and trash and hazardous material storage areas. Therefore, construction impacts would be less than significant.

## **GAS AND ELECTRICITY**

New electrical demands would include facilities in the warehouse (roll up doors, power tool outlets, lighting, etc.), two automatic rolling gates, and night lighting at the warehouse; materials enclosure; and gate entrance. The solar field would be used to supply electricity to the Corporation Yard, and the project would result in net zero electricity use at the project site. Therefore, no impact related to electricity use would occur.

The project would not result in a change in Corporation Yard activities or personnel and would remove existing gas infrastructure; therefore, no impact related to natural gas use would occur.

## **TELECOMMUNICATIONS**

The project would upgrade facilities and add a solar field at the City’s existing Corporation Yard. The project would extend new telecommunications infrastructure (provided by Comcast) to the warehouse; however, it would not change existing telecommunications use.

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

As required by the California Department of Water Resources (DWR), CCWD has analyzed the long-term reliability and vulnerability of its water supplies and developed a combination of supply alternatives and conservation planning efforts to meet the water supply needs of its customers. CCWD has developed water supply estimates for normal year, single dry year, and multiple dry year scenarios. Table 2.19-1 shows the projected water balance for a normal dry year through 2045. Table 2.19-2 shows the water balance for the first 5 years of a multiple dry year sequence under the *2020 Urban Water Management Plan*.<sup>103</sup>

As shown in Table 2.19-1, CCWD has adequate water supplies to meet a normal year demand.

As shown in Table 2.19-2, CCWD’s multiple dry year supplies are not adequate to meet projected multiple dry year demands. Significant supply shortfalls, ranging from 22 to 29 percent in the first year of the 5-year dry period to 53 to 59 percent in the fifth year of the 5-year dry period, are projected. This shortfall is primarily due to significant cutbacks in CCWD’s supply from the SFPUC.

**Table 2.19-1. CCWD Water Supply and Demand Estimates for Normal Water Years**

<b>Drought Year</b>	<b>Supply/Demand Totals<sup>1</sup></b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>	<b>2045</b>
First Year	Supply Totals	767	760	752	741	741
	Demand Totals <sup>2</sup>	704	697	690	668	664
	<i>Difference</i>	63	63	63	74	77

<sup>1</sup> All numbers are in million gallons per year.

Source: CCWD (2021), Table 7-12. Normal Year Supply and Demand Comparison (DWR Table 7-2 Retail).

<sup>103</sup> Coastside County Water District (CCWD). 2021. *2020 Urban Water Management Plan*. Available at: [https://www.coastsidewater.org/reports\\_and\\_studies/2020-Urban-Water-Management-Plan.pdf](https://www.coastsidewater.org/reports_and_studies/2020-Urban-Water-Management-Plan.pdf). Accessed October 20, 2021.

**Table 2.19-2. CCWD Water Supply and Demand Estimates for Multiple Dry Years**

Drought Year	Supply/Demand Totals <sup>1,2</sup>	2025	2030	2035	2040	2045
First Year	Supply Totals	533	529	522	518	471
	Demand Totals	704	697	690	668	664
	<i>Difference</i>	<i>-171</i>	<i>-168</i>	<i>-168</i>	<i>-150</i>	<i>-193</i>
Second Year	Supply Totals	416	409	405	401	398
	Demand Totals	704	697	690	668	664
	<i>Difference</i>	<i>-288</i>	<i>-288</i>	<i>-285</i>	<i>-267</i>	<i>-266</i>
Third Year	Supply Totals	376	369	365	361	358
	Demand Totals	704	697	690	668	664
	<i>Difference</i>	<i>-328</i>	<i>-328</i>	<i>-325</i>	<i>-307</i>	<i>-306</i>
Fourth Year	Supply Totals	348	341	337	301	290
	Demand Totals	704	697	690	668	664
	<i>Difference</i>	<i>-356</i>	<i>-356</i>	<i>-353</i>	<i>-367</i>	<i>-374</i>
Fifth Year	Supply Totals	331	324	298	284	273
	Demand Totals	704	697	690	668	664
	<i>Difference</i>	<i>-373</i>	<i>-373</i>	<i>-393</i>	<i>-384</i>	<i>-391</i>

<sup>1</sup> All numbers are in million gallons per year.

<sup>2</sup> CCWD's multiple dry year demands are assumed to be the same as CCWD's normal year demands.

Source: CCWD (2021), Table 7-18. Multiple Dry Year Supply and Demand Comparison (DWR Table 7-4 Retail).

In Table 2.19-2, CCWD's multiple dry year demands are assumed to be the same as CCWD's normal year demands. However, CCWD has developed a Water Shortage Contingency Plan that includes specific actions to reduce water consumption and losses. Specific actions are triggered by specific percent supply storages and include expanding public information campaigns, restricting landscape irrigation, implementing moratoriums on new connections, implementing drought rate structures or surcharges, increasing water waste patrols, and reducing system water loss. The District intends for its Water Shortage Contingency Plan to be an adaptive management plan so that it may assess response action effectiveness and adapt to foreseeable and unforeseeable events. CCWD assumes that under any given stage of water shortage, the identified actions would reduce the supply deficit up to and greater than a 50 percent shortage.

Construction activities would require a minimal amount of water for dust control and cement mixing. Water would be delivered to the project site by water truck.

Existing operational activities and water use under the project would not change from existing conditions with one exception. Maintenance of the solar panels would include washing them approximately twice a year. This would be expected to use approximately 2,000 gallons of water per year, which is less than 0.001 percent of the normal water use from the CCWD supply.

The minimal change from existing water use, combined with the City's Water Shortage Contingency Plan, would ensure that impacts related to increased water demand would remain less than significant.

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

As discussed under Section 2.19.a, SAM receives average dry weather flow of approximately 1.5 mgd and has a wastewater treatment plant capacity of up to 4 mgd in average dry weather flow.<sup>104</sup> The project would not change the existing uses or personnel at the Corporation Yard and would result in a minimal increase in wastewater production, primarily from the French drain under the materials enclosure; therefore, impacts related to increased wastewater production would be less than significant.

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

Solid waste pickup is provided to the project area and City by Republic Services, which provides pickup of residential and commercial garbage, recyclable material, and organic waste, as well as motor oil, oil filters, and batteries. Republic Services also has drop-off locations for electronic waste and hazardous materials, including medications and paint.<sup>105</sup>

Solid waste goes to the Corinda Los Trancos Ox Mountain Sanitary Landfill for recycling, composting, and disposal. The landfill is permitted to receive 3,598 tons of waste per day and has an anticipated closure date of 2034.<sup>106,107</sup> In the second quarter of 2019, the landfill received an average of 160,253 tons of solid waste (approximately 1,780 tons per day, or 49 percent of its permitted throughput).

## **CONSTRUCTION**

The trash and materials storage area is used by the City to hold construction soils, gravel, and debris for use at other construction sites and holding before recycling. Construction of the project would require clearing and grubbing, and soils excavation resulting in approximately 590 cubic yards of soil and debris to be hauled off-site for disposal over a 4-month period. This would weigh between 620 tons and 885 tons (between approximately 7.3 and 10.4 tons/day, or between 0.20 percent and 0.28 percent of Ox Mountain Landfill's permitted daily tonnage of 3,598 tons/day.<sup>108,109</sup> The project contractor would be required to

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<sup>104</sup> Sewer Authority Mid-Coastside (SAM). 2019. *Sewer System Management Plan*. Available at: [https://samcleanswater.org/vertical/sites/%7B1307B359-C05A-436D-AC1C-9EB8D6FFB4A3%7D/uploads/Item\\_4D\\_Attachment\\_B\\_SSMP\\_2019\(2\).pdf](https://samcleanswater.org/vertical/sites/%7B1307B359-C05A-436D-AC1C-9EB8D6FFB4A3%7D/uploads/Item_4D_Attachment_B_SSMP_2019(2).pdf). Accessed October 21, 2021.

<sup>105</sup> Republic Services. 2021. Republic Services of Half Moon Bay, CA Webpage. Available at: <https://www.republicservices.com/municipality/half-moon-bay-ca#resi>. Accessed October 21, 2021.

<sup>106</sup> Asphalt or concrete construction debris is approximately 2,400 pounds per cubic yard. Dry earth construction debris is approximately 2,100 pounds per cubic yard. Reference: California Department of Resources Recycling and Recovery (CalRecycle). 2018. *Solid Waste Cleanup Program Weights and Volumes for Project Estimates*. Available at: <https://www.calrecycle.ca.gov/swfacilities/cdi/tools/calculations>. Accessed October 21, 2021.

<sup>107</sup> California Department of Resources Recycling and Recovery (CalRecycle). 2017. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223>. Accessed October 21, 2021.

<sup>108</sup> Construction Debris, Wood, Uncompacted is estimated to weigh between 2,100 pounds and 3,000 pounds per cubic yard. Reference: California Department of Resources Recycling and Recovery (CalRecycle). 2018. *Calculations - Solid Waste Cleanup Program Weights and Volumes for Project Estimates*. Available at: <https://www.calrecycle.ca.gov/swfacilities/cdi/tools/calculations>. Accessed January 11, 2022.

<sup>109</sup> California Department of Resources Recycling and Recovery (CalRecycle). 2021. *SWIS Facility/Site Activity Details. Corinda Los Trancos Landfill (Ox Mnt) (41-AA-0002)*. Available at: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223>. Accessed January 11, 2022.

prepare and submit a Construction and Demolition Waste Management Plan to the City for review and approval. Under the plan, the project Contactor would be required to identify types and amounts of materials that could feasibly be reused, salvaged, or recycled, and would note the procedures intended to be used. The Waste Management Plan must be approved by the City prior to project construction.<sup>110</sup> Therefore, impacts related to construction would be less than significant.

The landfill has a remaining capacity of approximately 45 million cubic yards and is expected to operate until 2034.<sup>111</sup> The landfill would accept clean fill for daily cover and would have adequate capacity to serve the construction phase of the project because the construction phase of the project would be temporary and would generate a limited amount of solid waste. Development of the required Waste Management Plan would further reduce this less-than-significant impact.

## OPERATION

The project would remove and replace the existing trash and materials storage area with a roofed and drained materials enclosure. With the exception of the new solar field, the project would not alter existing activities or personnel at the Corporation Yard; therefore, no operational impacts would occur.

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

The City would be required to comply with all federal, State, and local ordinances for water, energy, and waste reduction and management, including, but not limited to, the City Municipal Code Chapter 14.50, Requirement for Construction and Demolition Waste Recycling; Waste Management Plan for construction debris; and SMCWPPP. Therefore, the project would comply with all federal, State, and local management and reduction statutes and regulations, and no impact would occur.

## 2.20 Wildfire

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</i>				
(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>110</sup> City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code. Chapter 14.50. Requirement for Construction and Demolition Waste Recycling*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1450.html#14.50>. Accessed October 21, 2021.

<sup>111</sup> California Department of Resources Recycling and Recovery (CalRecycle). 2017. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223>. Accessed October 21, 2021.



Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Environmental Evaluation

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

A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could affect persons or structures in the area in the event of a fire. The project area is located on the eastern edge of City limits adjacent to the coastal hills. It is adjacent to both a VHFHSZ in a State Responsibility Area to the northeast and a VHFHSZ in a Local Responsibility Area to the north and northwest.<sup>112</sup> However, the majority of the project site and its surrounding area is located in a WUI.<sup>113</sup> The project would upgrade and replace existing infrastructure at the City’s Corporation Yard, including the addition of water lines, fire hydrants, and sprinklers, which would meet both federal and City codes.

The existing Corporation Yard facilities include five mobile trailers and one emergency supply trailer on the site. These trailers contain emergency supplies for Corporation Yard employees as well as emergency supplies for other agencies including, but not limited to, the American Red Cross, the San Mateo Coastside Medical Reserve Corps, and the Peninsula Humane Society. These trailers would be retained on-site and relocated to the northeastern corner of the site, north of the existing garage. The new security gates would be equipped with “Knox,” key-operated emergency entry devices as required by the CFPD regulations. Therefore, in the event of an emergency, access to these trailers would be available local emergency services. Therefore, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and this impact would be less than significant.

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

The project area is located in a WUI and adjacent to both VHFHSZ areas in a State Responsibility Area and a Local Responsibility Area.<sup>114</sup> The Corporation Yard site is relatively flat. The project would upgrade Corporation Yard facilities, including upgrades to water service, sprinklers, and fire hydrants that would meet CFPD requirements. It would not add any elements that would exacerbate wildfire risk and

<sup>112</sup> California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fire Hazard Severity Zone Viewer*. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed October 21, 2021.

<sup>113</sup> Association of Bay Area Governments (ABAG). 2020. Wildland-Urban Interface Fire Threat Interactive Map. Available at: <https://mtc.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=d45bf08448354073a26675776f2d09cb&layerId=0>. Accessed October 21, 2021.

<sup>114</sup> California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fire Hazard Severity Zone Viewer*. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed October 21, 2021.

would not be occupied; therefore, it would not expose project occupants to fire hazards, and no impact would occur.

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

The project area is located on the eastern edge of the city, adjacent to the coastal hills. The project is not located in an identified VHFHSZ but is located in the WUI. The project would upgrade existing infrastructure at the City's Corporation Yard, including the addition of new fire hydrants and sprinkler systems meeting the requirements of National Fire Protection Association Code (NFPA) 13 (2013 edition) and CFPD. The project would be required to conform to the following Fire Prevention Bureau Standards:

- DI-006 Commercial Sprinkler Requirements
- DI-007 Solar Photovoltaic Systems
- Fire Code Ordinance No. 2019-03 (including FPE-001 Standard Hydrants, FPE-002 Fire Lanes and F.D. Connections.<sup>115</sup>

The project would upgrade existing facilities at the Corporation Yard; therefore, the project would not require the installation or maintenance of new infrastructure that may exacerbate fire risk, and no impact would occur.

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

The project area is located on the eastern edge of the city, adjacent to the coastal hills. The project is located adjacent to an identified VHFHSZ, and the majority of the parcel is also located in a WUI.<sup>116</sup> The project is an infrastructure project that would replace and upgrade existing facilities in the City's Corporation Yard, including installing fire hydrants and sprinkler systems as required by the CFPD. The project is not located in a flood zone or landslide hazard zone. Therefore, the project would not expose people or structures to significant risks as a result of post-fire instability including downslope or downstream flooding or landslides, and no impact would occur.

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<sup>115</sup> Coasts Fire Protection District (CFPD). 2021. *Fire Prevention Bureau Standards Webpage*. Available at: <https://www.coastsidefire.org/fire-prevention-bureau-standards>. Accessed October 21, 2021.

<sup>116</sup> Association of Bay Area Governments (ABAG). 2020. Wildland-Urban Interface Fire Threat Interactive Map. Available at: <https://mtc.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=d45bf08448354073a26675776f2d09cb&layerId=0>. Accessed November 15, 2021.

## 2.21 Mandatory Findings of Significance

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Does the project have 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, substantially 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Environmental Evaluation

**a. 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?**

The project site is located on the eastern edge of the City adjacent to Pilarcitos Creek and SR-92 and includes existing Corporation Yard facilities. The habitat surrounding the work area consists of asphalted roadways, a residential community, a commercial center, Pilarcitos Creek, agricultural operations, and undeveloped land. There are three ESHAs and one potential ESHA in the project area and two potential special-status species (California red-legged frog and San Francisco garter snake) in the project footprint. Mitigation Measure BIO-1 would be implemented to protect plants and wildlife in the area, and Mitigation Measures BIO-2 through BIO-5 would be implemented to protect special-status wildlife, migrating reptiles and amphibians, wetlands, nesting birds, and heritage trees; therefore, the project would have a less-than-significant impact on biological resources. There are no known historic resources in the project area, and the City's Standard Conditions would protect previously undiscovered historical resources; therefore, the project would have no impact on historic resources. The project would have a less-than-significant impact on archaeological resources and human remains with implementation of Standard Conditions and Mitigation Measures CUL-1. As described in this document, the project would not degrade the quality of the environment, reduce or threaten any fish or wildlife species (endangered or otherwise), or eliminate important examples of the major periods of California history or pre-history. Therefore, impacts from the project would be less than significant with mitigation incorporated.

**b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)**

The project would have less-than-significant construction impacts to aesthetics, air quality, biology, cultural resources, energy, geology and soils, GHGs, hazards, hydrology and water quality, land use, noise, recreation, traffic, tribal cultural resources, and utilities. Cumulative impacts are assessed as follows:

- **Aesthetics**. Temporary construction impacts to scenic resources and the visual character of a public view would be limited to the view from SR-92, which is mostly blocked by cypress trees. Construction impacts would be short-term and temporary, lasting approximately 4 to 6 months, and would be limited to the imposition of construction vehicles and equipment on the area. Because of the small size and limited duration of project construction, removal of multiple existing storage containers, the placement of the new warehouse near existing buildings and as far from SR-92 as possible to reduce visual massing, the use of neutral tone colors and materials, and planting of replacement trees on the property to screen facilities, project construction would not add to cumulatively considerable visual impacts.
- **Air Quality and GHG**. According to the BAAQMD’s CEQA Guidelines, if a project’s emissions levels exceed the identified significance thresholds for air quality and GHGs, the emissions would be cumulatively considerable. Construction emissions for the project would not exceed BAAQMD thresholds of significance. Operationally, the project would not result in an increase in employees or intensity of use. Therefore, construction and operational impacts would not be cumulatively considerable.
- **Biological Resources**. The project could have potentially significant impacts to special-status species, ESHAs, and nesting birds. However, a biological monitor would be on-site during construction, and Mitigation Measures BIO-1 through BIO-5 identified for impacts to biological resources would fully mitigate all potentially significant biological impacts from construction to a less-than-significant level. The wildlife corridor improvements would potentially result in a net benefit for California red-legged frogs and San Francisco garter snakes. Therefore, construction and operational impacts to biological resources would not contribute to cumulatively considerable impacts.
- **Cultural and Tribal Cultural Resources**. As described in Section 2.5, Cultural Resources, and 2.18, Tribal Cultural Resources, the project area is undergoing an archeological dig investigation, but there is no indication of any significant tribal or cultural resources located in the project area. The proposed project would require the cessation of construction activities following the discovery of any previously unidentified cultural resource. The potential impacts remaining after cessation of proposed project activities would be negligible and would not contribute to an incremental impact. Therefore, the project would not cause impacts that could be cumulatively considerable.
- **Energy**. There are no established thresholds of significance for construction-related energy use. Cumulative impacts to energy resources would occur if the proposed project would add to a substantial aggregation of impacts related to wasteful, inefficient, or unnecessary energy consumption or conflict with a state or local plan for renewable energy or efficiency. Projects in the County are required to comply with the BAAQMD and the California Green Buildings Standard to reduce construction-related GHG emissions, which also reduces energy use. In addition, all projects in the County are required to comply with the County Waste Management Plan by recycling at least 65 percent of all construction waste or demolition material. In addition,

the project would construct a solar field to provide electrical energy to the Corporation Yard facilities. Therefore, the project would not contribute to a cumulatively considerable impact on energy use.

- **Geology and Soils.** As described in Section 2.7, Geology and Soils, there is no indication of any paleontological resources located in the project area. The proposed project would require the cessation of construction activities following the discovery of any previously unidentified paleontological resource. The potential impacts remaining after cessation of proposed project activities would be negligible and would not contribute to an incremental impact. Therefore, the project would not cause impacts that could be cumulatively considerable.
- **Hydrology and Water Quality.** Project construction could cause runoff to Pilarcitos Creek that could violate water quality standards and result in erosion or siltation. However, implementation of a SWPPP and compliance with the SMCWPPP BMPs, which is a standard condition of approval, would prevent contaminated stormwater runoff from entering Pilarcitos Creek. Therefore, project construction would not contribute to cumulative water quality impacts in Pilarcitos Creek.
- **Land Use.** The project would upgrade existing Corporation Yard facilities, including the addition of a solar field. With the exception of the project-specific solar field, the project would not add new uses or employees to the Corporation Yard. The project would allow the City to develop the approximately 4-acre area with a new land use or uses at a later date. Potential uses for the remainder area that are currently under consideration include, but are not limited to, a community garden, parking for the trail easement, and low-income housing. Given the relatively small size of the parcel, future development would be unlikely to have impacts that are cumulatively considerable.
- **Noise.** Temporary noise impacts from project construction would be limited to the area of Stone Pine Road, the Hilltop Mobile Home Park, and Spanish Town, and construction hours would meet City requirements. Construction impacts would be short-term and temporary, lasting 4 to 6 months. Because of the temporary nature and short duration of project construction, project construction would not contribute to cumulatively considerable impacts.
- **Utilities and Service Systems.** Project construction would produce approximately 590 cubic yards of debris to be hauled off-site for disposal. The project contractor would be required to identify types and amounts of materials that could feasibly be reused, salvaged, or recycled, and to note the procedures intended to be used. The Waste Management Plan must be approved by the City prior to project construction.<sup>117</sup> Solid waste goes to the Corinda Los Trancos Ox Mountain Sanitary Landfill for recycling, composting, and disposal, which is permitted to receive 3,598 tons of waste per day.<sup>118</sup> The total amount of construction waste from the project would be small, less than 0.1 percent of the 608,086 tons received at the Ox Mountain Landfill in 2019. In addition, the project would comply with the County Waste Management Plan by recycling at least 65 percent of all construction waste or demolition material. Therefore, solid waste from project construction would not contribute to a cumulatively considerable impact.

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<sup>117</sup> City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code. Chapter 14.50. Requirement for Construction and Demolition Waste Recycling*. Available at: <https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1450.html#14.50>. Accessed November 15, 2021.

<sup>118</sup> California Department of Resources Recycling and Recovery (CalRecycle). 2017. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223>. Accessed November 15, 2021.

Given the small size of the project, its limited duration, and mitigation measures to reduce all potential impacts, the incremental construction effects of upgrading the Corporation Yard facilities would not contribute to a cumulatively considerable impact.

Because the project is limited to upgrading the existing Corporation Yard facilities and adding approximately 64,000 square feet, or 1.47 acres, of additional impervious surface, the project would have few permanent impacts. These would include stormwater runoff from an additional 1.47 acres of impervious pavement. The new paved access road would be wider, but it would replace the existing unpaved loop access road; therefore, there would be minimal net change in acreage of disturbed grassland habitat. The project would improve the facilities of the Corporation Yard and remove the existing materials enclosure from the 50-foot riparian setback. It would also include a solar field for electricity but would not otherwise alter its existing operational use. The project site is not in a flood hazard zone and there is no recorded flood hazard in the project area. The project would implement stormwater drainage that meets the requirements of the City's GIP and has adequate capacity to carry runoff from projected development of the plan area. Therefore, the additional runoff would not contribute to a cumulatively considerable impact. Since the ruderal grassland may hold a wildlife corridor for California red-legged frog, the wildlife corridor would be improved, fenced, and provided with frog/snake tunnels under the access road; therefore, the project would decrease the chance of impacts to sensitive species. Therefore, the project would not contribute to a cumulatively considerable impact.

***c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?***

A significant impact may occur if a project has the potential to result in significant impacts, as discussed in the previous sections. Replacing Corporation Yard facilities is of benefit to City staff and the community. As described throughout this environmental impact analysis, with implementation of mitigation measures (where applicable), the project would not result in any significant impacts. Therefore, the project would not have the potential to result in substantial adverse effects on human beings, and impacts would be less than significant with mitigation incorporated.

## **CHAPTER 3. PREPARERS OF THE INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**

### **3.1 Lead Agency**

City of Half Moon Bay  
Public Works Department  
501 Main Street  
Half Moon Bay, California 94019

Todd Seeley, Public Works Superintendent  
Douglas Garrison, Senior Planner  
John Doughty, Director of Public Works  
Jill Ekas, Community Development Director

### **3.2 Project Applicant**

City of Half Moon Bay

### **3.3 Environmental Consultants (CEQA)**

SWCA Environmental Consultants  
60 Stone Pine Road Suite 100  
Half Moon Bay, California 94019

Jessica Henderson-McBean, Project Manager/Biologist  
Juliet Bolding, Planner  
Erika Sagrafena, Planning Team Lead  
Liz Haines and Peggy Ford, Senior Technical Editors

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## **APPENDIX A**

### **Preliminary Site Design Plans**





# CITY OF HALF MOON BAY CORPORATION YARD

880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT NUMBER: 202005  
60% CONSTRUCTION DOCUMENTS

ISSUE DATE: NOVEMBER 01, 2021

PROJECT:  
CITY OF HALF MOON BAY

CORPORATION YARD

PROJECT NUMBER:  
202005

CLIENT:  
CITY OF HALF MOON BAY  
880 STONE PINE ROAD, HALF  
MOON BAY, CA 94019

PROJECT TEAM:  
ARCHITECT  
ELS ARCHITECTURE AND URBAN DESIGN  
2040 Addison Street  
Berkeley, CA 94704  
P: 510.549.2929

CIVIL ENGINEER (SEPARATE CONTRACT):  
BKF ENGINEERS  
255 Shoreline Drive, Suite 200  
Redwood City, CA 94065  
P: 650.482.6300

ENVIRONMENTAL CONSULTANT:  
SWCA  
95 3rd St. 2nd Floor  
San Francisco, CA 94103  
P: 415.536.2883

STRUCTURAL ENGINEER:  
KPPF  
45 Fremont Street, 28th Floor  
San Francisco, CA 94105  
P: 415.989.1004

MECHANICAL / PLUMBING ENGINEER:  
Alter Consulting Engineers  
1624 Franklin St. #1300  
Oakland, CA 94612  
P: 510.474.0379

ELECTRICAL ENGINEER:  
OMM CONSULTING  
4340 Redwood Hwy #245  
San Rafael, CA 94903

COST ESTIMATOR:  
MAC&S  
1900 Powell St #470  
Emeryville, CA 94608

## SYMBOLS LEGEND

	GRID	GRID LINE REFERENCE
	TITLE SCALE	DRAWING TITLE
	VIEW	INTERIOR ELEVATION
	SECTION KEY	
	DETAIL SECTION KEY	
	DETAIL PLAN KEY	
	DRAWING REVISION	
	SPOT ELEVATION	
	ELEVATION TARGET	
	DOOR NUMBER	
	KEYNOTE	

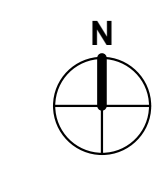
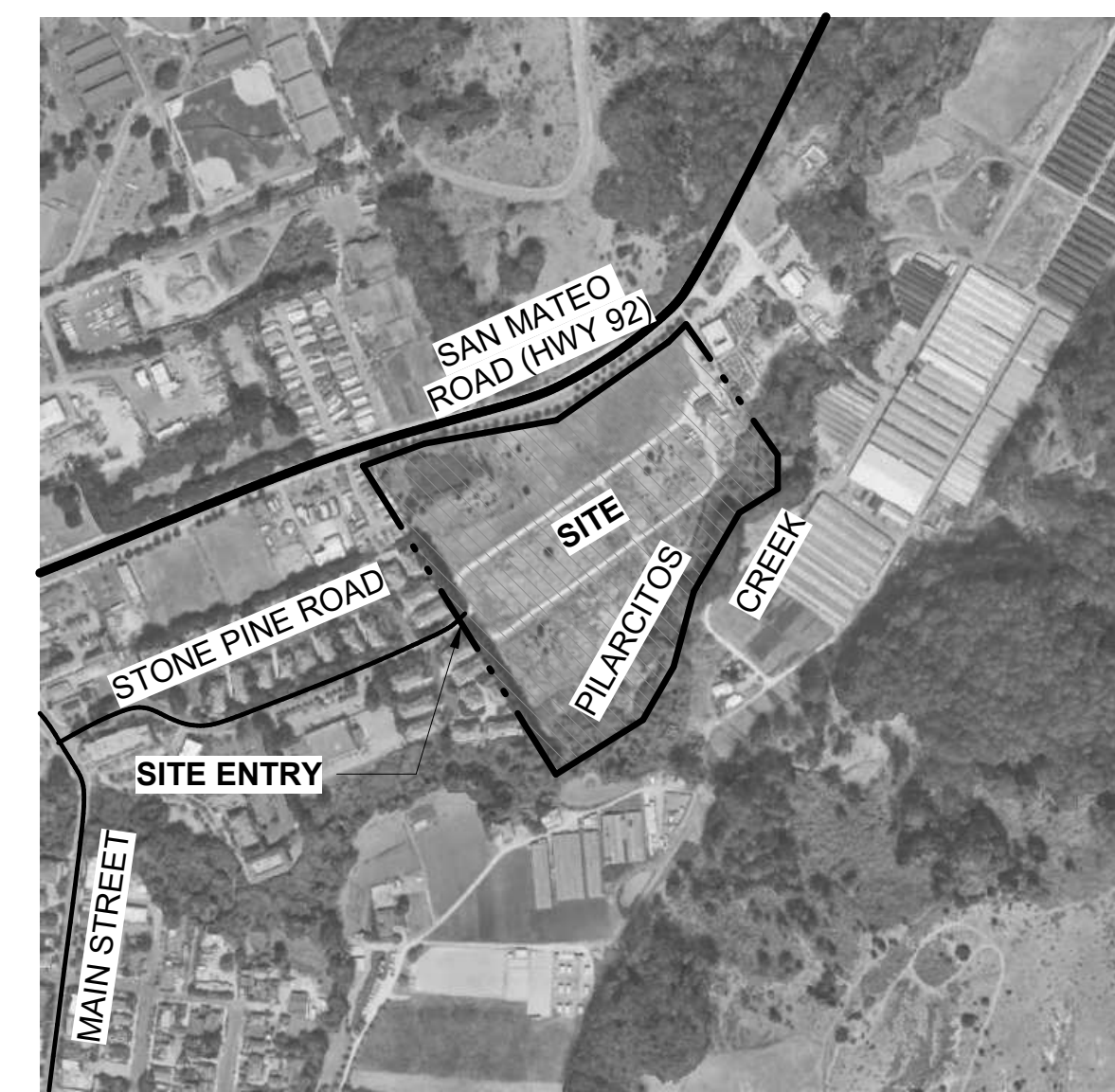
## GENERAL NOTES

- THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS WITH EACH OTHER AND SHALL AT ONCE REPORT TO THE ARCHITECT ANY CONSTRUCTION ACTIVITY KNOWING IT INVOLVES A RECOGNIZED ERROR, INCONSISTENCY OR OMISSION IN THE CONTRACT DOCUMENTS WITHOUT SUCH NOTICE TO THE ARCHITECT. THE CONTRACTOR SHALL ASSUME APPROPRIATE RESPONSIBILITY FOR SUCH PERFORMANCE AND SHALL BEAR AN APPROPRIATE AMOUNT OF THE ATTRIBUTABLE COSTS FOR CORRECTION.
- WHERE NEW CONSTRUCTION ADJACENT TO EXISTING CONSTRUCTION TO REMAIN, ALL CONDITIONS AFFECTING WORK PROGRESS AND CONFORMANCE TO PLANS AND SPECIFICATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO START OF WORK.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED MEASUREMENTS. WHERE DISCREPANCIES IN DIMENSIONS OCCUR THEY SHALL BE REPORTED TO THE ARCHITECT FOR RESOLUTION.
- ALL WORK AND MATERIALS SHALL BE IN ACCORD WITH THE LATEST RULES AND REGULATIONS OF ALL APPLICABLE STATE AND/OR LOCAL CODES, LAWS, ORDINANCES, STATUTES AND REGULATIONS. NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED AS REQUIRING OR PERMITTING WORK CONTRARY TO THESE RULES, REGULATIONS, AND CODES.
- THE DRAWINGS INDICATE LOCATIONS, DIMENSIONS, AND TYPICAL DETAILS OF CONSTRUCTION. THE DRAWINGS DO NOT ILLUSTRATE EVERY CONDITION. WORK NOT EXPRESSLY DETAILED SHALL BE OF CONSTRUCTION SIMILAR TO PARTS THAT ARE DETAILED. WHERE DISCREPANCIES OCCUR, THEY SHALL BE REPORTED TO THE ARCHITECT FOR RESOLUTION.
- SITE BOUNDARY LINES, BOUNDARY DIMENSIONS, BOUNDARY DECLINATIONS, AND EXISTING GRADES ARE BASED UPON THE SURVEY DRAWING. THE CONTRACTOR SHALL BE DEEMED TO HAVE INSPECTED THE SITE AND SATISFIED HIMSELF AS TO ACTUAL GRADES, LEVELS, DIMENSIONS, AND DECLINATIONS AND THE TRUE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED.
- MASONRY DIMENSIONS ARE GIVEN TO THE NOMINAL FACE OF MASONRY.
- DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE NOTED. DO NOT SCALE THE DRAWINGS. LAY OUT WORK FOLLOWING WRITTEN DIMENSIONS. IF WRITTEN DIMENSIONS ARE LACKING, NOTIFY THE ARCHITECT AT ONCE. IF NO LOCATING DIMENSIONS ARE SHOWN, DOOR OPENINGS ARE LOCATED BY THE DOOR DETAILS.
- DIMENSIONS AND ELEVATIONS ON THESE DRAWINGS REFER TO BUILDING DATUM, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING.
- ALL WORK SHOWN IS ASSUMED TO BE NEW UNLESS NOTED AS EXISTING.

## PROJECT DATA & CODE SUMMARY

A.P.N.:	056-260-180
LOT SIZE:	PARCEL ONE - 14.66 ACRES (639,792 SQ. FT.) PARCEL TWO - 5.67 ACRES (246,792 SQ. FT.)
AREA OF WORK:	WORKSHOP / STORAGE BUILDING 6,750 SF TRASH / MATERIAL STORAGE ENCLOSURE 1,880 SF
OCCUPANCY:	S1 - WORKSHOP / STORAGE BUILDING U - TRASH / MATERIAL STORAGE ENCLOSURE
NUMBER OF STORIES:	1-STORY
BUILDING CONSTRUCTION:	TYPE V: WORKSHOP / STORAGE BUILDING TYPE V: TRASH / MATERIAL STORAGE ENCLOSURE
SPRINKLERED:	WORKSHOP / STORAGE BUILDING - SPRINKLERED TRASH / MATERIAL STORAGE ENCLOSURE - SPRINKLERED
BUILDING HEIGHT:	19' - 0" - WORKSHOP / STORAGE BUILDING
APPLICABLE CODES:	AMERICANS WITH DISABILITIES ACT ("ADA") COMPLIANCE REQUIRED FOR SITE AND STOR. ACCESS. 2019 CALIFORNIA BUILDING CODE ("CBC").

## PROJECT LOCATION



## PROJECT SCOPE

THE PROJECT SCOPE INCLUDES A NEW PAVED ACCESS ROAD FROM THE WEST OF THE SITE AT STONE PINE ROAD TO A NEW LOOP ROAD IN THE CORPORATION YARD AT THE EAST END OF THE SITE. PROJECT SCOPE ALSO INCLUDES A NEW STEEL SECURITY FENCE AT THE YARD PERIMETER. THE PERIMETER SECURITY FENCE WILL HAVE A ROLLING GATE AT THE YARD ENTRY WITH KEY CARD ACCESS.

PARKING FOR STAFF AND A CHAINLINK FENCED PARKING AREA FOR SERVICE VEHICLES ARE TO BE PROVIDED INSIDE THE YARD PERIMETER.

THE NEW STRUCTURES ARE TO BE BUILT ON SITE. THESE INCLUDE A WORKSHOP / STORAGE BUILDING AND A COVERED TRASH / MATERIAL STORAGE ENCLOSURE. THE WORKSHOP / STORAGE BUILDING IS TO BE AN OWNER FURNISHED / CONTRACTOR INSTALLED TENSION FABRIC STRUCTURE INSTALLED ON SLAB ON GRADE WITH PERIMETER FOUNDATION. THE WORKSHOP STORAGE BUILDING WILL INCLUDE NEW OFFICE SPACE, RESTROOMS, AND LOCKER ROOMS.

A SOLAR ARRAY IS TO BE INSTALLED NORTH OF THE LOOP ROAD. THE SOLAR ARRAY IS TO BE DESIGN BUILD AND PROVIDE POWER TO THE CORPORATION YARD. THE SOLAR ARRAY SYSTEM WILL BE INTERCONNECTED TO THE NEW PG+E MAIN ELECTRICAL SERVICE.

## SHEET INDEX

ADMINISTRATIVE	A000 COVER SHEET
A001 ACCESS COMPLIANCE PLAN	
A002X TOPOGRAPHIC SURVEY (1 OF 2 - BKF - FOR REFERENCE ONLY)	
A003X TOPOGRAPHIC SURVEY (2 OF 2 - BKF - FOR REFERENCE ONLY)	
ARCHITECTURE	A100 DEMOLITION SITE PLAN
A101 SITE PLAN	
A201 SITE PLAN ENLARGED	
A401 WORKSHOP / STORAGE BUILDING PLANS AND ELEVATIONS	
A402 TRASH / STORAGE ENCLOSURE PLANS AND ELEVATIONS	
A600 DOOR AND FINISH SCHEDULE	
A801 EXTERIOR DETAILS	
CIVIL	C1.0 HORIZONTAL CONTROL
C2.0 GRADING PLAN	
C3.0 UTILITY PLAN	
C4.0 EROSION CONTROL PLAN	
C4.1 EROSION CONTROL DETAILS	
C4.2 EROSION CONTROL DETAILS	
C5.0 CONSTRUCTION DETAILS	
C5.1 CONSTRUCTION DETAILS	
C5.2 CONSTRUCTION DETAILS	
C5.3 CONSTRUCTION DETAILS	

## DEFERRED SUBMITTALS

- TENSION FABRIC BUILDING STRUCTURE
- FIRE SPRINKLER AND ALARM SYSTEM
- SOLAR ARRAY

## ABBREVIATIONS

pl	PENNY (NAIL)	BC	BOTTOM OF CURB	DBL	DOUBLE	F.A	FIRE ALARM	INSUL.	INSULATION	(N)	NEW	S	SOUTH	V.T.	VINYL TILE
PL	PROPERTY LINE	BTW.	BETWEEN	D.D	DECK DRAIN	F.E.	FIRE EXTINGUISHER	INT.	INTERIOR	N.	NORTH	SCH.	SCHEDULE	VERT.	VERTICAL
&	AND	BD.	BOARD	DEMO.	DEMOLISH	F.E.C.	FIRE EXTINGUISHER CABINET	ISA	INTERNATIONAL SYMBOL OF ACCESSIBILITY	N.I.C.	NOT IN CONTRACT	SECT.	SECTION	VEST.	VESTIBULE
∠	ANGLE	BTUM.	BITUMINOUS	DEPT.	DEPARTMENT	F.H.	FIRE HYDRANT	NO.	NOMINAL	NOM.	NOMINAL	S.E.D.	SEE ELECTRICAL DRAWINGS	V.I.F.	VERIFY IN FIELD
CL	CENTERLINE	BLDG.	BLOCK	DET.	DETAIL	F.F.	FIRE HOSE CABINET	NOM.	NOMINAL	N.T.S.	NOT TO SCALE	SF	SQUARE FOOT, SQUARE FEET		
∅	DIAMETER, ROUND	BLK.	BLOCKING	D.F.	DOUGLAS FIR, DRINKING FOUNTAIN	F.H.C.	FIRE HOSE CABINET	JAN.	JANITOR			SIM.	SIMILAR		
⊥	PERPENDICULAR	BLWG.	BELOW	DIAM.	DIAMETER	FN.	FINISH	JST.	JOIST	O.A.	OVERALL	S.L.D.	SEE LANDSCAPE DRAWINGS	W	WIDE
#	POUND NUMBER	BLW.	BELOW	DIAG.	DIAGONAL	FKT.	FIXTURE	J.H.	JOIST HANGER	O.C.	ON CENTER	S.M.	SHEET METAL	W.	WEST
(E)	EXISTING	BM.	BEAM	DIM.	DIMENSION	FLR.	FLOOR	JT.	JOINT	O.D.	OUTSIDE DIAMETER	S.M.D.	SEE MECH. DRAWINGS	W.	WITH
(N)	NEW	B.O.	BOTTOM OF	DISP.	DISPENSER	F.O.	FACE OF	KIT.	KITCHEN	O.F.	OWNER FURNISHED	SPEC.	SPECIFICATION	W.C.	WATER CLOSET
		B.S.	BOTTOM OF SILL	DN.	DOWN	F.O.C.	FACE OF CONCRETE	LAV.	LAVATORY	O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED	SQ.	SQUARE	W.D.	WOOD
		B.R.	BOTTOM OF RISER	DR.	DOOR OPENING	F.O.F.	FACE OF FINISH	LAV.	LAVATORY	O.F.O.I.	OWNER FURNISHED OWNER INSTALLED	S.S.	SQUARE FOOT, SQUARE FEET	W.D.	WOOD
		B.O.C.	BOTTOM OF CURB	DR.	DOOR	FRF.	FIREPROOF	LOC.	LOCATION			S.S.D.	SEE STRUCTURAL DRAWINGS	W.F.	WIDE FLANGE
		BOT.	BOTTOM	DWG.	DRAWING	FRMG.	FRAMING	LT.	LIGHT			STD.	STANDARD	W.O.	WITHOUT
		B.U.R.	BUILT-UP ROOFING			FT.	FOOT, FEET			OFF.	OFFICE	STL.	STEEL	W/O	WITHOUT
A.B.	ANCHOR BOLT			GA.	GAUGE					O.H.	OVERHEAD	STOR.	STORAGE	WP.	WATERPROOF
ABV.	ABOVE	CLG.	CEILING	GALV.	GALVANIZED	MACH.	MACHINE			OPNG.	OPENING	STRUCT.	STRUCTURAL	WP- TYPE 1 (ETC.)	WATERPROOFING TYPE 1 (ETC.)
A.C.	ASPHALTIC CONCRETE	CLO.	CLOSET	G.B.	GRAB BAR	MAX.	MAXIMUM			OPP.	OPPOSITE			WR.	WATER RESISTANT
A.C.	AIR CONDITIONING	COL.	COLUMN	GWB.	GYPSEUM WALL BOARD	MECH.	MECHANICAL							W.S.	WOOD SCREW
ACOUS.	ACOUSTICAL	COMP.	COMPOSITION	GL.	GLASS	MEMB.	MEMBRANE			PLUMB.	PLUMBING			WSCT.	WAINSCOT
A.D.	AREA DRAIN	CONC.	CONCRETE	GND.	GROUND	MFR.	MANUFACTURER			PT.	POINT, PAINT	THR.	THRESHOLD		
ADJ.	ADJUSTABLE, ADJACENT	C.M.U.	CONCRETE MASONRY UNIT	GR.	GRADE	MH.	MANHOLE			PTD.	PAINTED	T.B.D.	TO BE DETERMINED	T.O.	TOP OF
A.F.F.	ABOVE FINISH FLOOR	CONN.	CONNECTION	GYP.	GYPSEUM	MIN.	MINIMUM			MIR.	MIRROR	T.O.B.	TOP OF BENCH	T.O.C.	TOP OF CONCRETE
AGGR.	AGGREGATE	CONSTR.	CONSTRUCTION	EQ.	EQUAL	MISC.	MISCELLANEOUS			MIR.	MIRROR	T.O.S.	TOP OF STRUCTURE	T.O.W.	TOP OF WALL
ALUM.	ALUMINUM	CONT.	CONTINUOUS	E.Q.	EQUIPMENT	M.O.	MASONRY OPENING			MISC.	MISCELLANEOUS	TYP.	TYPICAL	UNF.	UNFINISHED
ALT.	ALTERNATE	CNT.	CORRIDOR	E.Q.	EQUIPMENT	MTD.	MOUNTED			REF.	REFERENCE	U.O.N.	UNLESS OTHERWISE NOTED	UR.	URNAL
A.P.	ACCESS PANEL	CORR.	CORRIDOR	EXP.	EXPOSED	MTL.	METAL			REQ'D	REQUIRED				
APPROX.	APPROXIMATE	C.T.	CERAMIC TILE	EXP.	EXPANSION	MTL.	METAL SIDING			RESIL.	RESILIENT				
ARCH.	ARCHITECT	CNTR.	CENTER	EXT.	EXTERIOR	MUL.	MULLION			RETAIN.	RETAINING				
ASPH.	ASPHALT									REV.	REVISION, REVISED				
										RM.	ROOM				

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SHEET TITLE:  
**COVER SHEET**

SHEET NUMBER:  
**A000**



PROJECT:  
**CITY OF HALF MOON BAY**

**CORPORATION YARD**

PROJECT NUMBER:  
**202005**

CLIENT:  
**CITY OF HALF MOON BAY**  
880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:  
**ARCHITECT:**  
ELS ARCHITECTURE AND URBAN DESIGN  
2040 Addison Street  
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P: 510.549.2929

**CIVIL ENGINEER (SEPARATE CONTRACT):**  
BKF ENGINEERS  
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**ENVIRONMENTAL CONSULTANT:**  
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95 3rd St. 2nd Floor  
San Francisco, CA 94103  
P: 415.536.2883

**STRUCTURAL ENGINEER:**  
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45 Fremont Street, 28th Floor  
San Francisco, CA 94105  
P: 415.989.1004

**MECHANICAL / PLUMBING ENGINEER:**  
Alter Consulting Engineers  
1624 Franklin St. #1300  
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**ELECTRICAL ENGINEER:**  
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4340 Redwood Hwy #245  
San Rafael, CA 94903

**COST ESTIMATOR:**  
MAC&S  
1900 Powell St #470  
Emeryville, CA 94608

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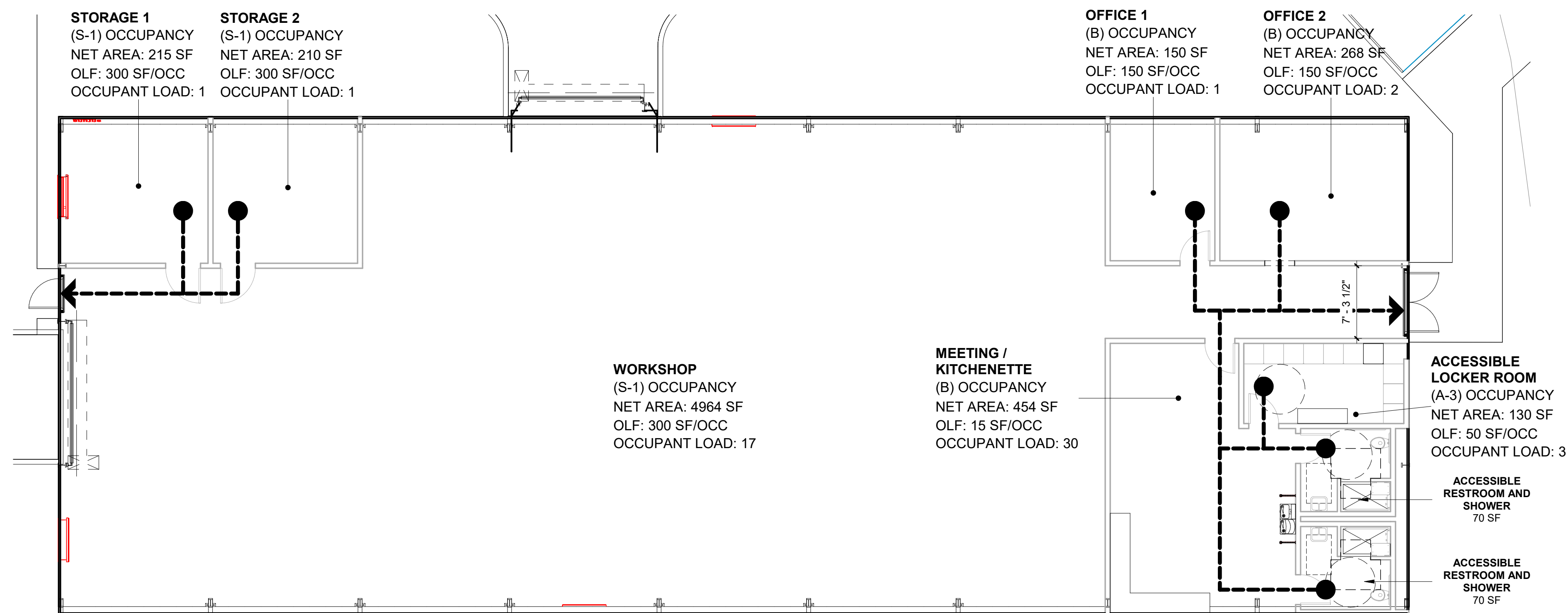
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SHEET TITLE:  
**ACCESS COMPLIANCE PLAN**




SHEET NUMBER:

**A001**



1 WORKSHOP / STORAGE BLDG. - EGRESS & ACC. PATH PLAN  
1/8" = 1'-0"

**LEGEND**

-  EGRESS PATH
-  ACCESSIBLE PATH OF TRAVEL
-  ACCESSIBLE POINT OF ORIGIN

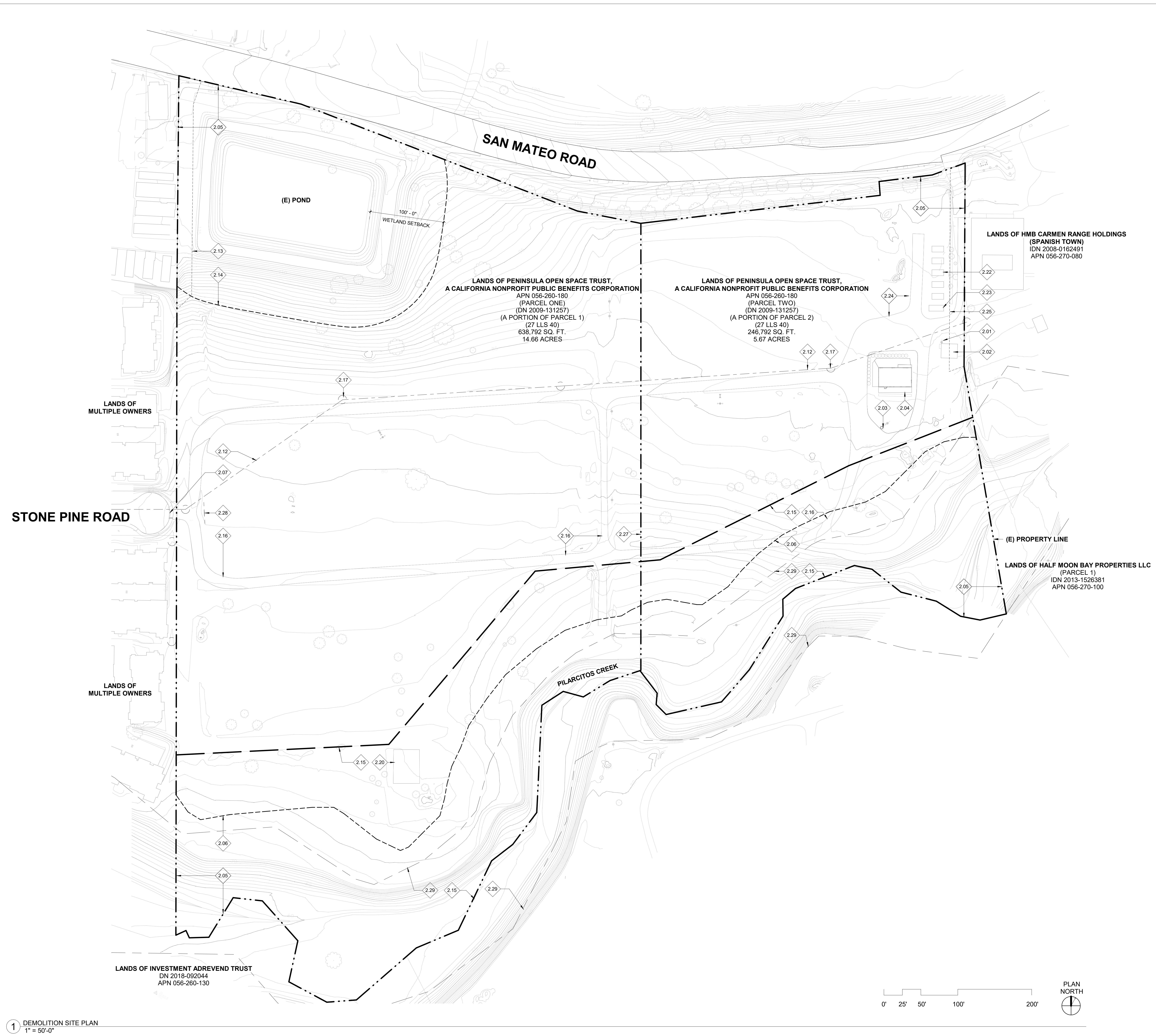












**SHEET NOTES**

- VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. BRING DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- ALL BUILDING AND SITE FEATURES TO REMAIN UNLESS OTHERWISE NOTED.

**KEYNOTES**

2.01 (E) GAS METER, S.C.D.  
 2.02 (E) BARN  
 2.03 (E) MAIN ELECTRICAL SERVICE TRANSIT  
 2.04 (E) HOUSE, DECK, AND GARDEN, N.I.C.  
 2.05 PROPERTY LINE  
 2.06 RIPARIAN SETBACK  
 2.07 (E) SITE ENTRY  
 2.12 (E) SEWER LINE (10 FEET WIDE), S.C.D.  
 2.13 CCWD EASEMENT, S.C.D.  
 2.14 WETLAND SETBACK  
 2.15 EX. NO. 13 CONSERVATION TRAIL EASEMENT (DN 2021-007595), S.C.D.  
 2.16 (E) DIRT PATH TO BE ABANDONED  
 2.17 (E) SANITARY SEWER MANHOLE, TYP., S.C.D.  
 2.20 (E) CONCRETE PAD  
 2.22 (E) MOBILE TRAILER, TYP. FOR (S)  
 2.23 (E) STORAGE CONTAINER  
 2.24 (E) DIRT PATH  
 2.25 POKE EASEMENT, S.C.D.  
 2.27 RELOCATED PROPERTY LINE  
 2.28 (E) SIGN TO BE REMOVED  
 2.29 FEMA BASE FLOOD ELEVATION BOUNDARY, S.C.D.



PROJECT:  
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**CORPORATION YARD**

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 880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:  
 ARCHITECT:  
 ELS ARCHITECTURE AND URBAN DESIGN  
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STRUCTURAL ENGINEER:  
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ELECTRICAL ENGINEER:  
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 San Rafael, CA 94903

COST ESTIMATOR:  
 MACLES  
 1900 Powell St #470  
 Emeryville, CA 94608

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SHEET TITLE:  
**DEMOLITION SITE PLAN**

SHEET NUMBER:  
**A100**

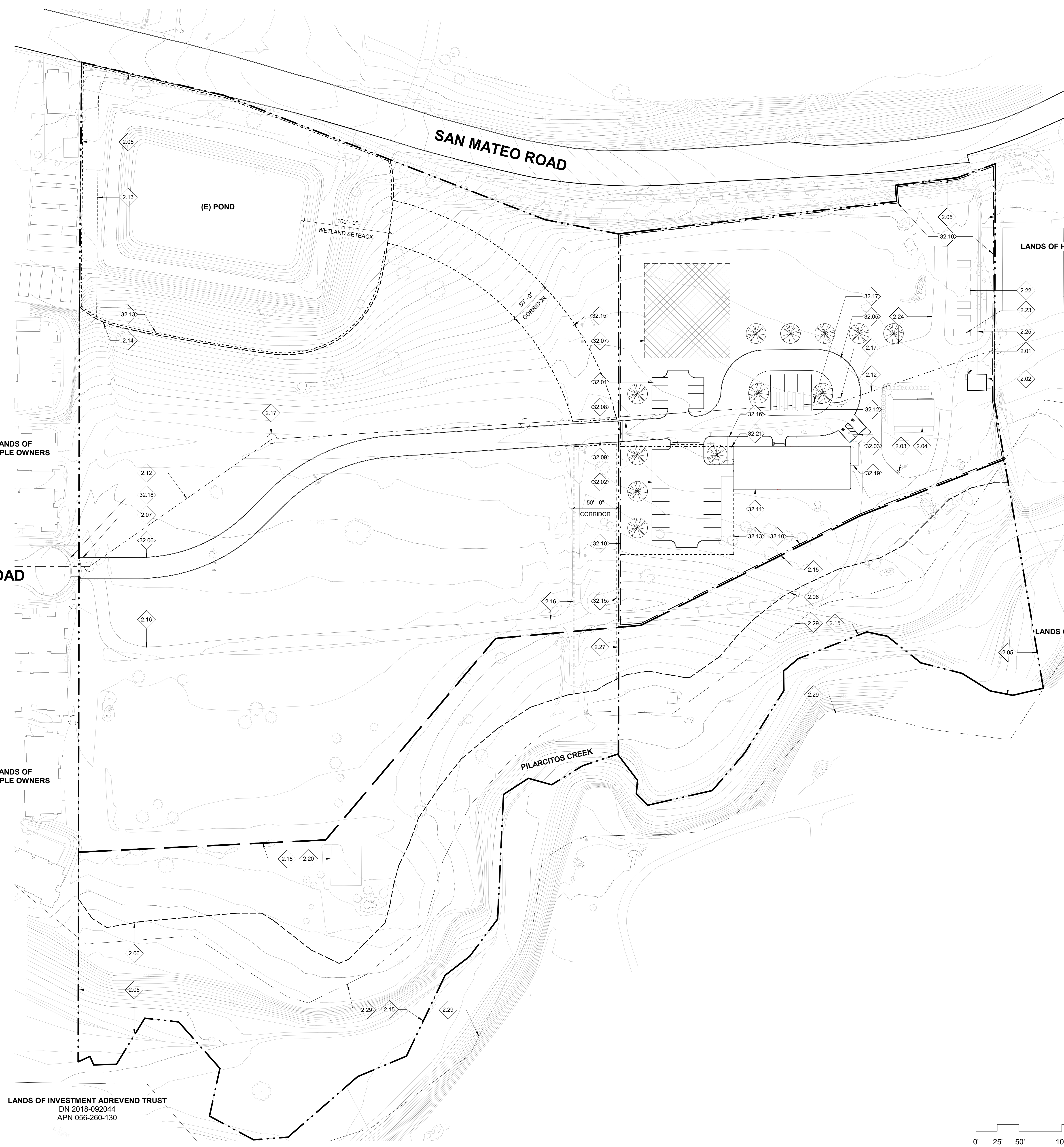
**LEGEND**

---	DEMOLISHED ITEM
- - - -	RIPARIAN SETBACK / WETLAND SETBACK
- · - · -	FENCE
- · - · -	PROPERTY LINE
- - - -	SEWER LINE
- · - · -	CCWD / PG&E EASEMENT
- - - -	(E) EX. NO. 13 CONSERVATION TRAIL EASEMENT
- - - -	FLOOD LINE

1 DEMOLITION SITE PLAN  
 1" = 50'-0"







- SHEET NOTES**
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  - 2.03 (E) MAIN ELECTRICAL SERVICE TRANSIT
  - 2.04 (E) HOUSE, DECK, AND GARDEN, N.I.C.
  - 2.05 PROPERTY LINE
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  - 2.15 EX. NO. 13 CONSERVATION TRAIL EASEMENT (DN 2021-007595), S.C.D.
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  - 2.20 (E) CONCRETE PAD
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  - 2.23 (E) STORAGE CONTAINER
  - 2.24 (E) DIRT PATH
  - 2.25 POKE EASEMENT, S.C.D.
  - 2.27 RELOCATED PROPERTY LINE
  - 2.29 FEMA BASE FLOOD ELEVATION BOUNDARY, S.C.D.
  - 32.01 EMPLOYEE PARKING, S.C.D.
  - 32.02 SERVICE VEHICLE PARKING, S.C.D.
  - 32.03 ACCESSIBLE PARKING, S.C.D.
  - 32.05 ASPHALT PAVED LOOP ROAD. ALLOW CLEARANCE OF 20' FOR EMERGENCY VEHICLE ACCESS, S.C.D.
  - 32.06 ASPHALT ROAD, S.C.D.
  - 32.07 SOLAR ARRAY 11,000 SF, S.E.D.
  - 32.08 ROLLING GATE WITH AUTOMATIC OPENER/CLOSER AND KEYCARD ENTRY
  - 32.09 TRAFFIC RATED CULVERT UNDER ROAD, REINFORCED CONCRETE, 8' CLEAR
  - 32.10 8' STEEL FENCE
  - 32.11 WORKSHOP / STORAGE BUILDING, 50' x 135' TENSION FABRIC BUILDING STRUCTURE, SPRINKLERED
  - 32.12 TRASH / STORAGE STRUCTURE
  - 32.13 6' CHAINLINK FENCE
  - 32.15 WILDLIFE EXCLUSIONARY FENCE, 4' CHAINLINK FENCE WITH 12" x 24" VINYL SLATS AT BOTTOM OF FENCING
  - 32.16 WALKWAY, S.C.D.
  - 32.17 HOSE BIB, S.P.D.
  - 32.18 FIRE HYDRANT, S.C.D.
  - 32.19 ACCESSIBLE WALKWAY, S.C.D.
  - 32.21 PERSONAL GATE



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PROJECT TEAM:  
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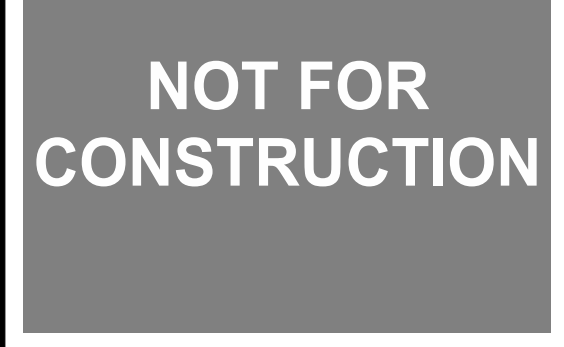
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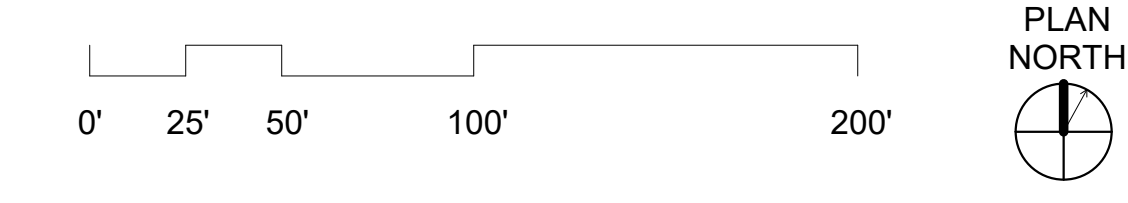


SHEET TITLE:  
**SITE PLAN**

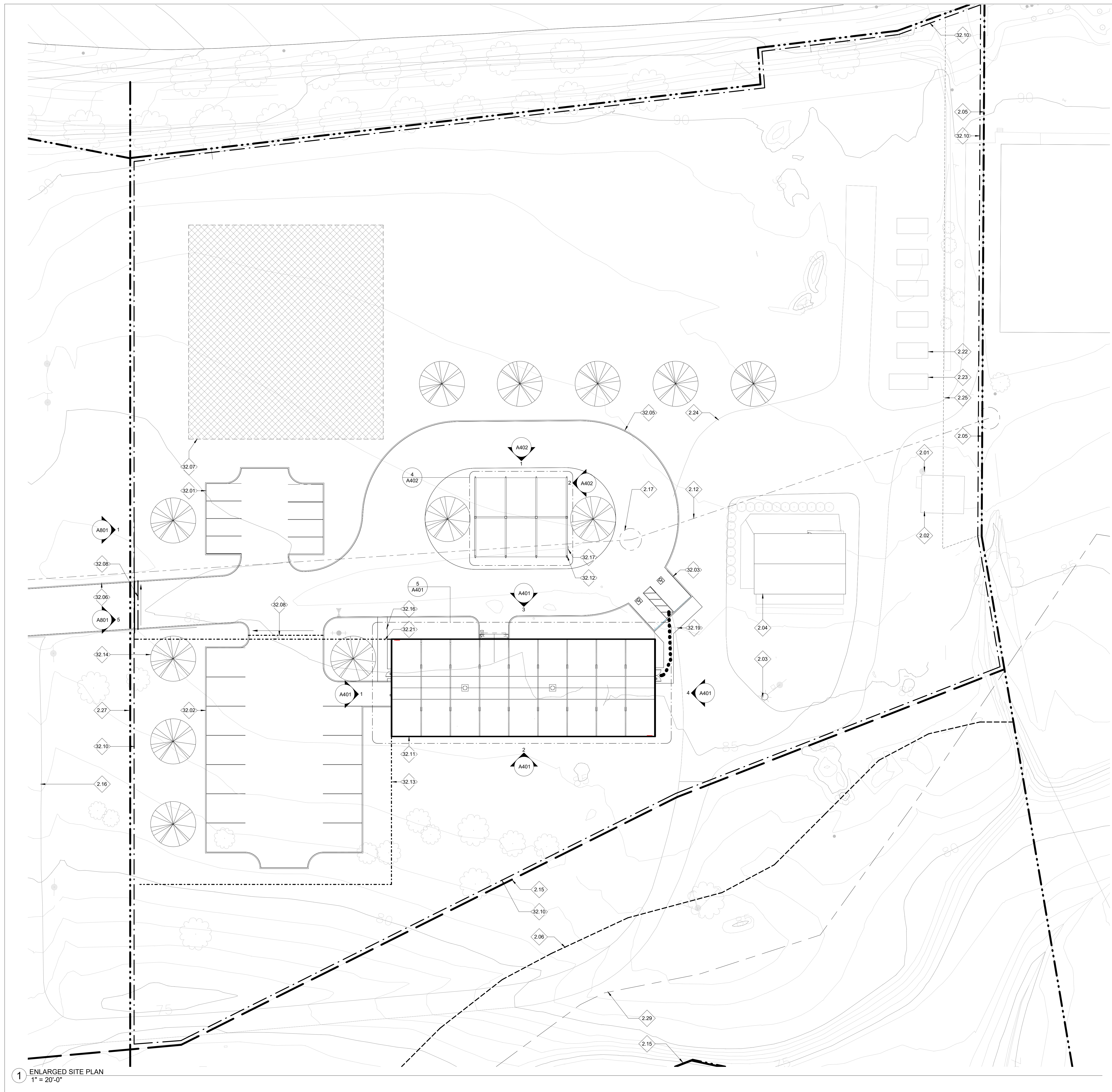
SHEET NUMBER:

**A101**

- LEGEND**
- RIPARIAN SETBACK / WETLAND SETBACK
  - - - FENCE
  - PROPERTY LINE
  - SEWER LINE
  - CCWD / PG&E EASEMENT
  - (E) EX. NO. 13 CONSERVATION TRAIL EASEMENT
  - FLOOD LINE
  - ☒ SOLAR ARRAY AREA







**SHEET NOTES**

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- 32.11 WORKSHOP / STORAGE BUILDING, 50' x 135' TENSION FABRIC BUILDING STRUCTURE, SPRINKLERED
- 32.12 TRASH / STORAGE STRUCTURE
- 32.13 6' CHAINLINK FENCE
- 32.14 TREE, PROPOSED LOCATION, TYP., FOR (12), N.I.C., INSTALLED BY PG&E
- 32.16 WALKWAY, S.C.D.
- 32.17 HOSE BIB, S.P.D.
- 32.19 ACCESSIBLE WALKWAY, S.C.D.
- 32.21 PERSONAL GATE



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**LEGEND**

- RIPARIAN SETBACK / WETLAND SETBACK
- - - - FENCE
- . - . - . PROPERTY LINE
- - - - SEWER LINE
- - - - CCWD EASEMENT
- - - - (E) EX. NO. 13 CONSERVATION TRAIL EASEMENT
- ..... ACCESSIBLE PATH OF TRAVEL
- - - - FLOOD LINE
- [Cross-hatched box] SOLAR ARRAY AREA



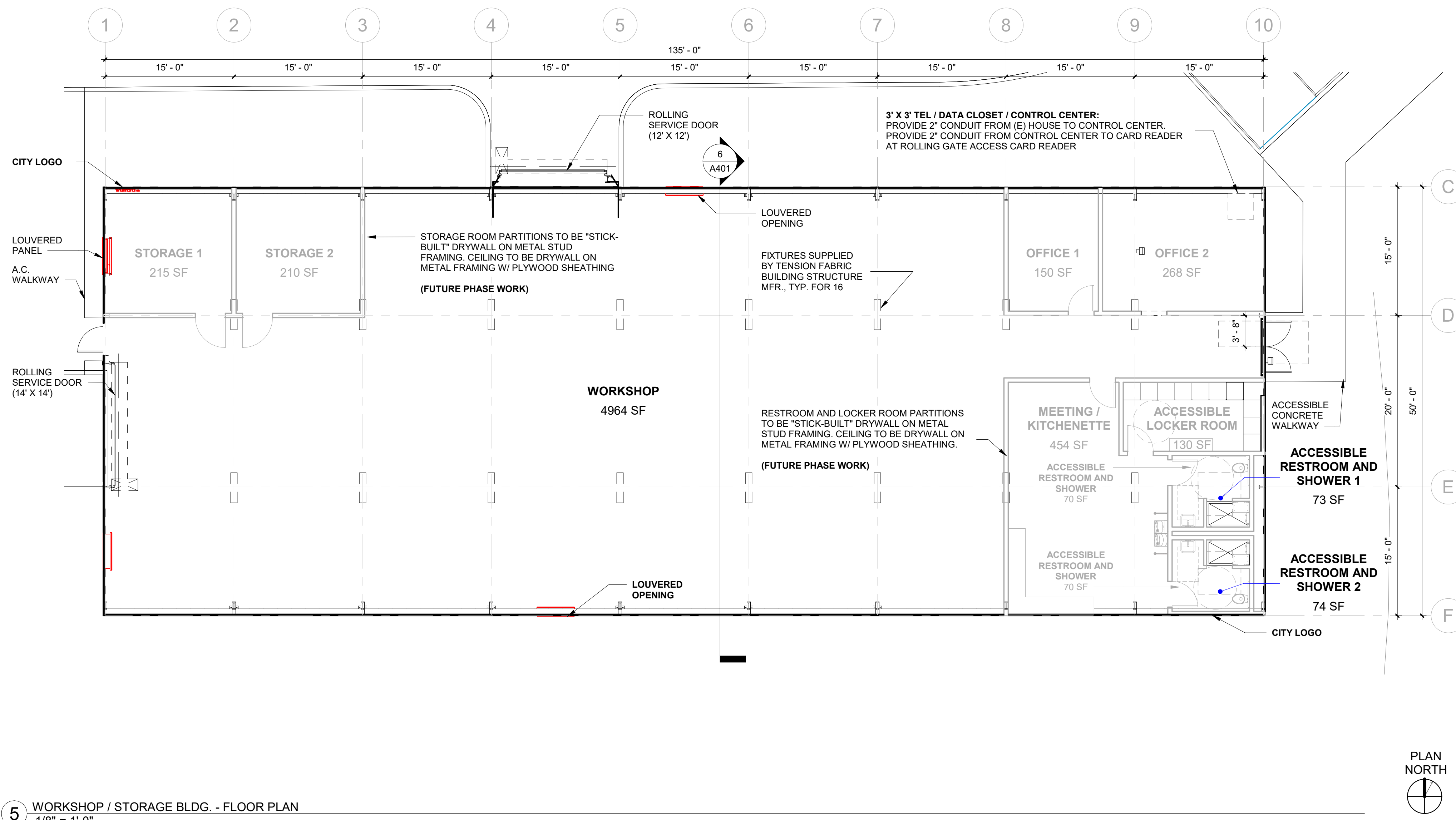
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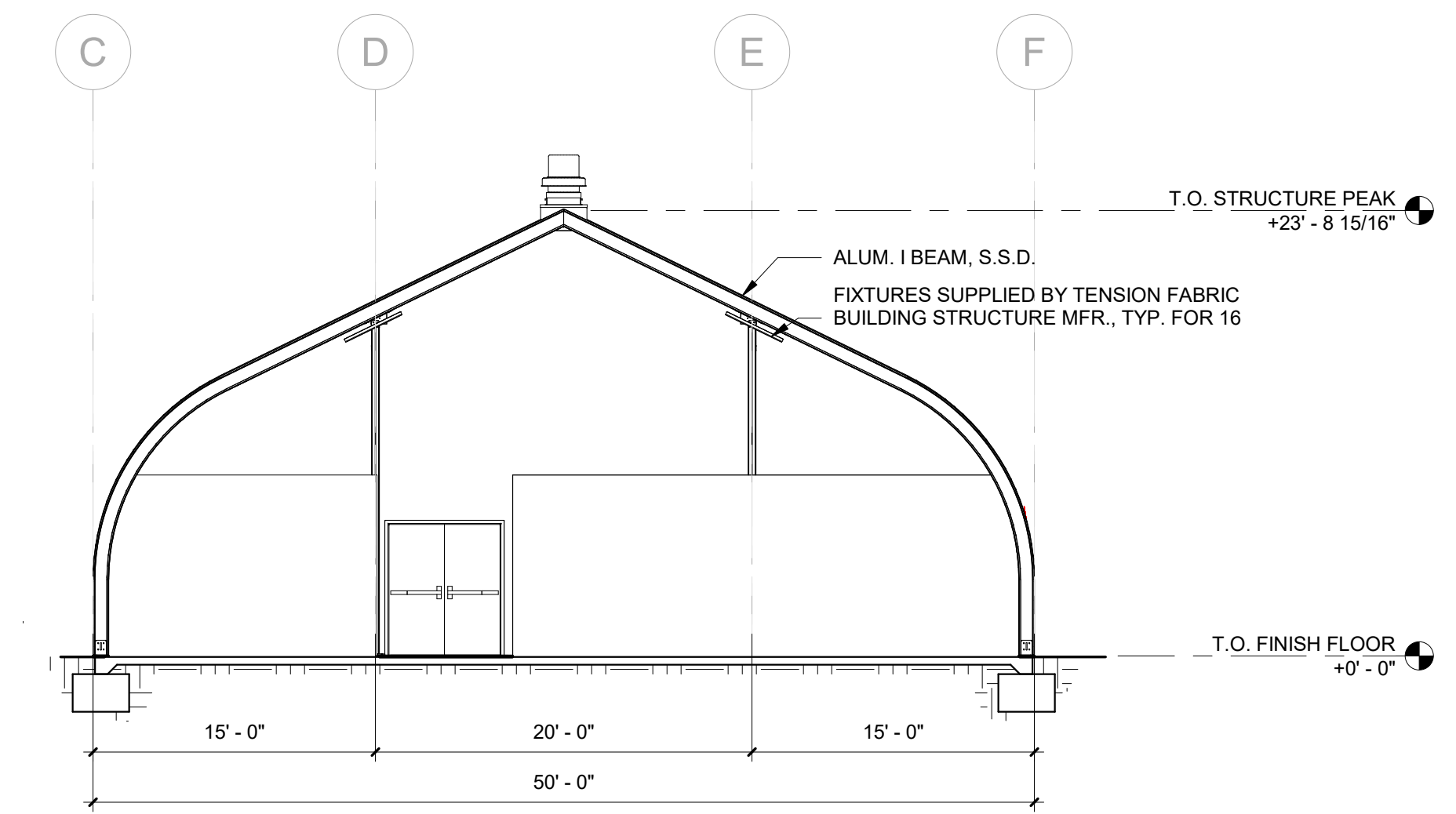
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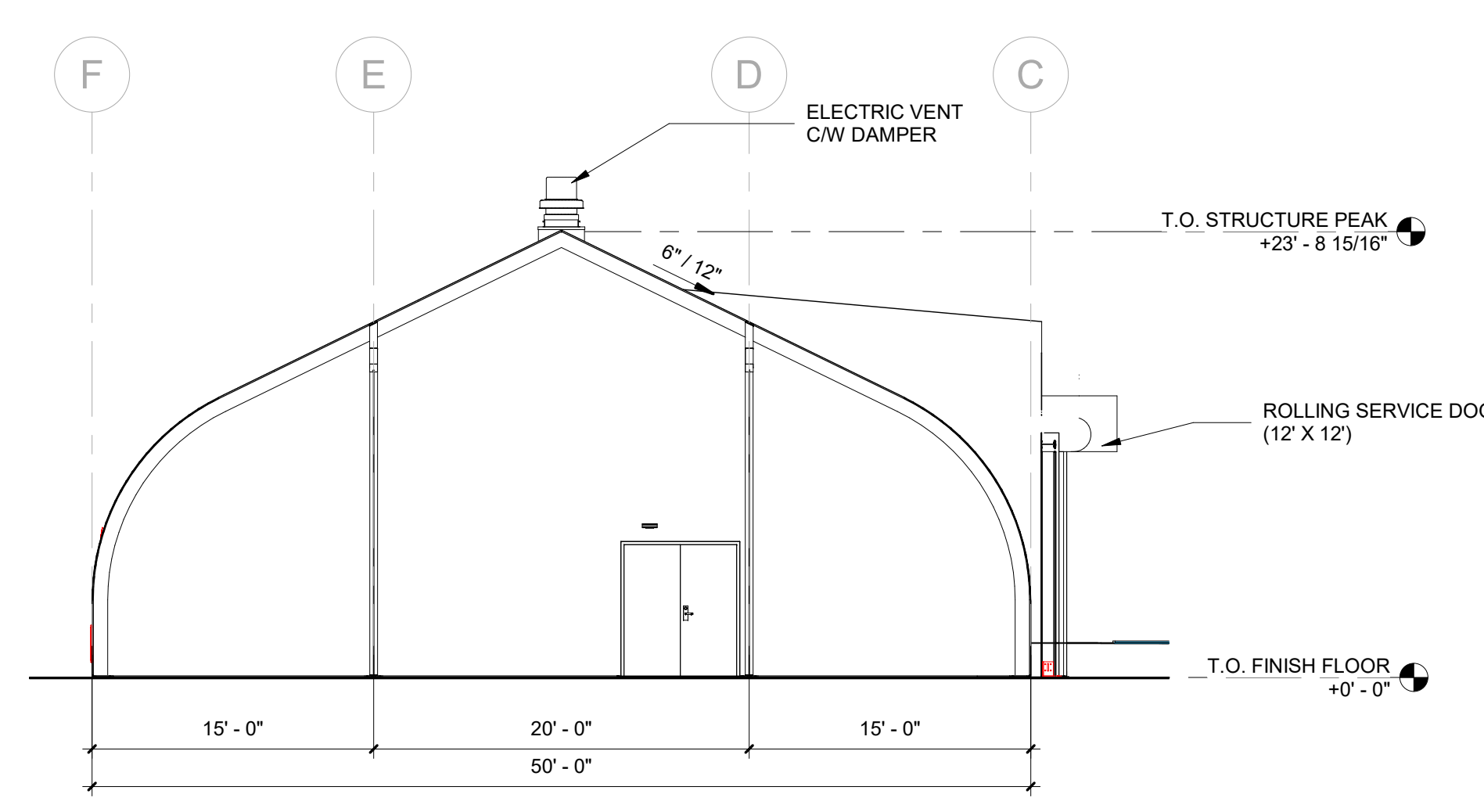
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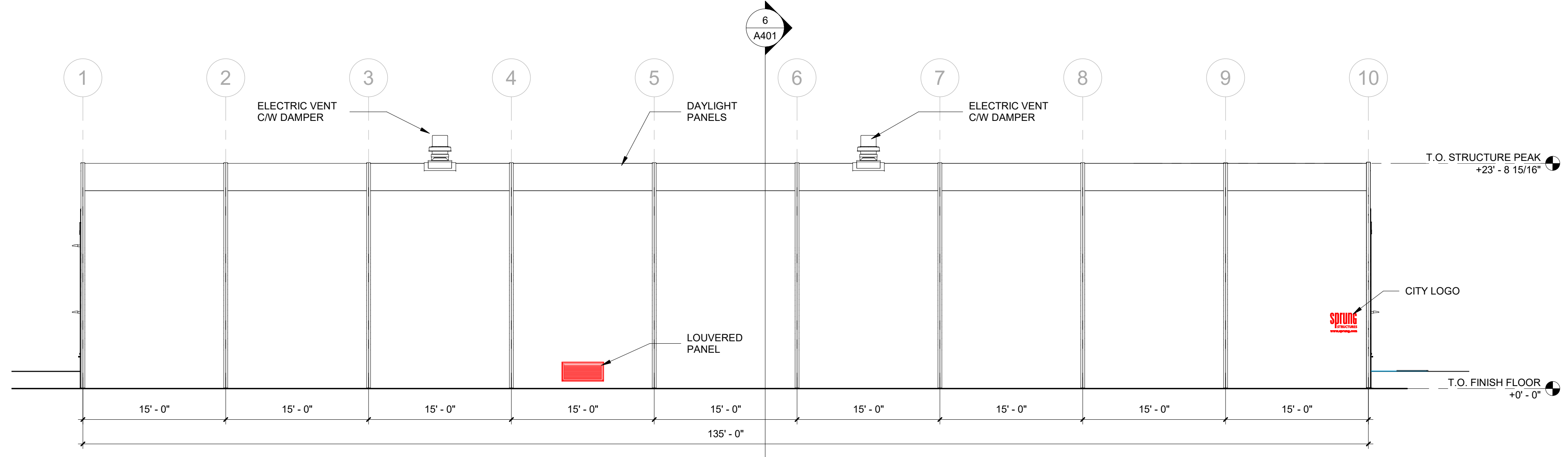
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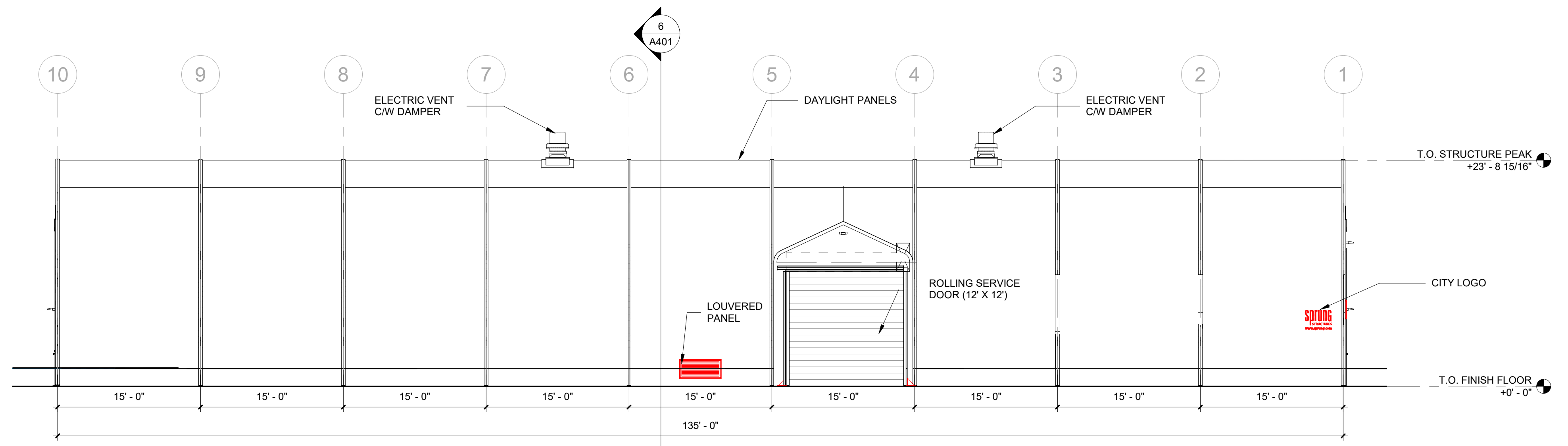
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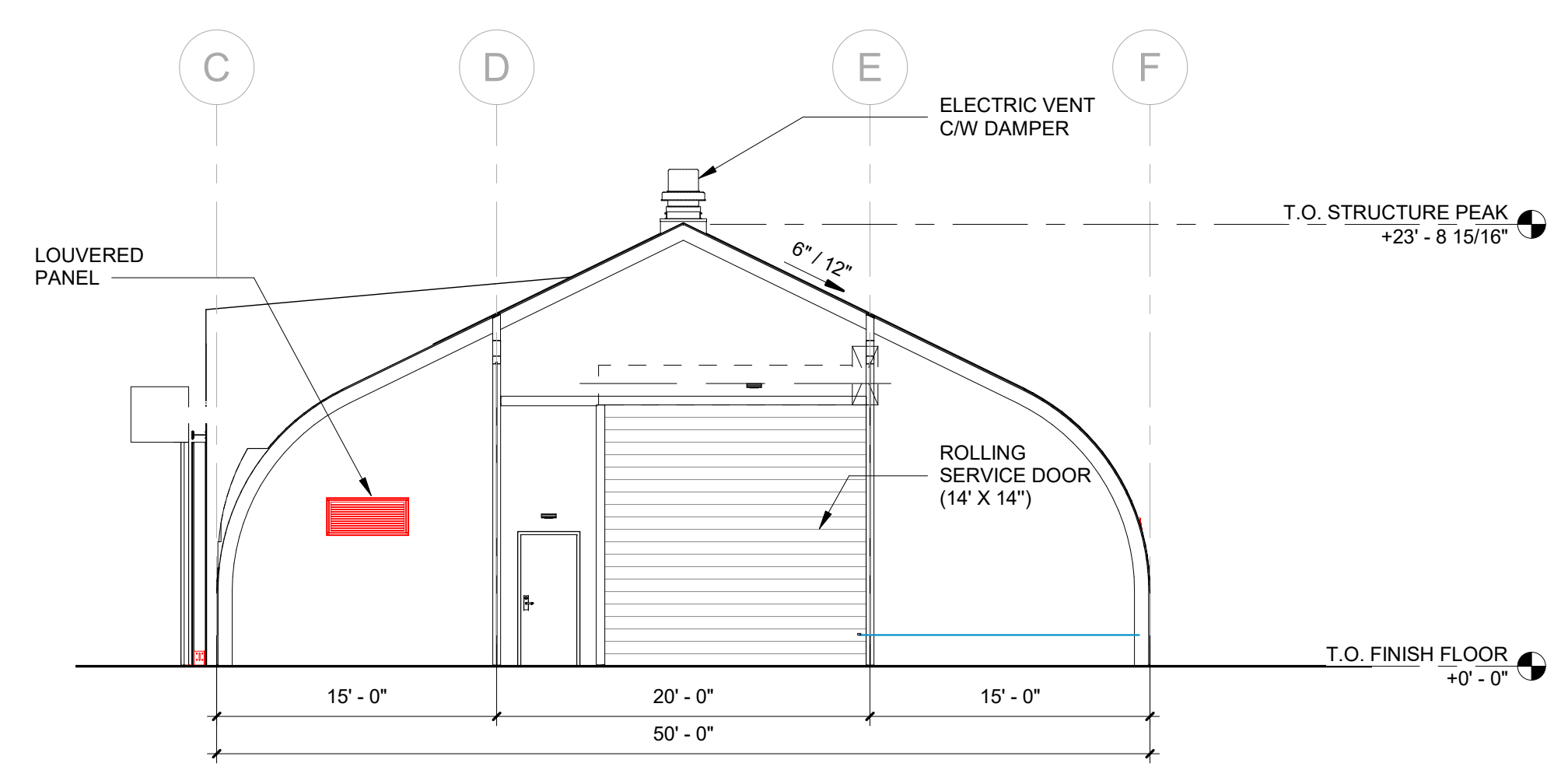
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3 WORKSHOP / STORAGE BLDG. - SOUTH ELEVATION  
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1 WORKSHOP / STORAGE BLDG. - EAST ELEVATION  
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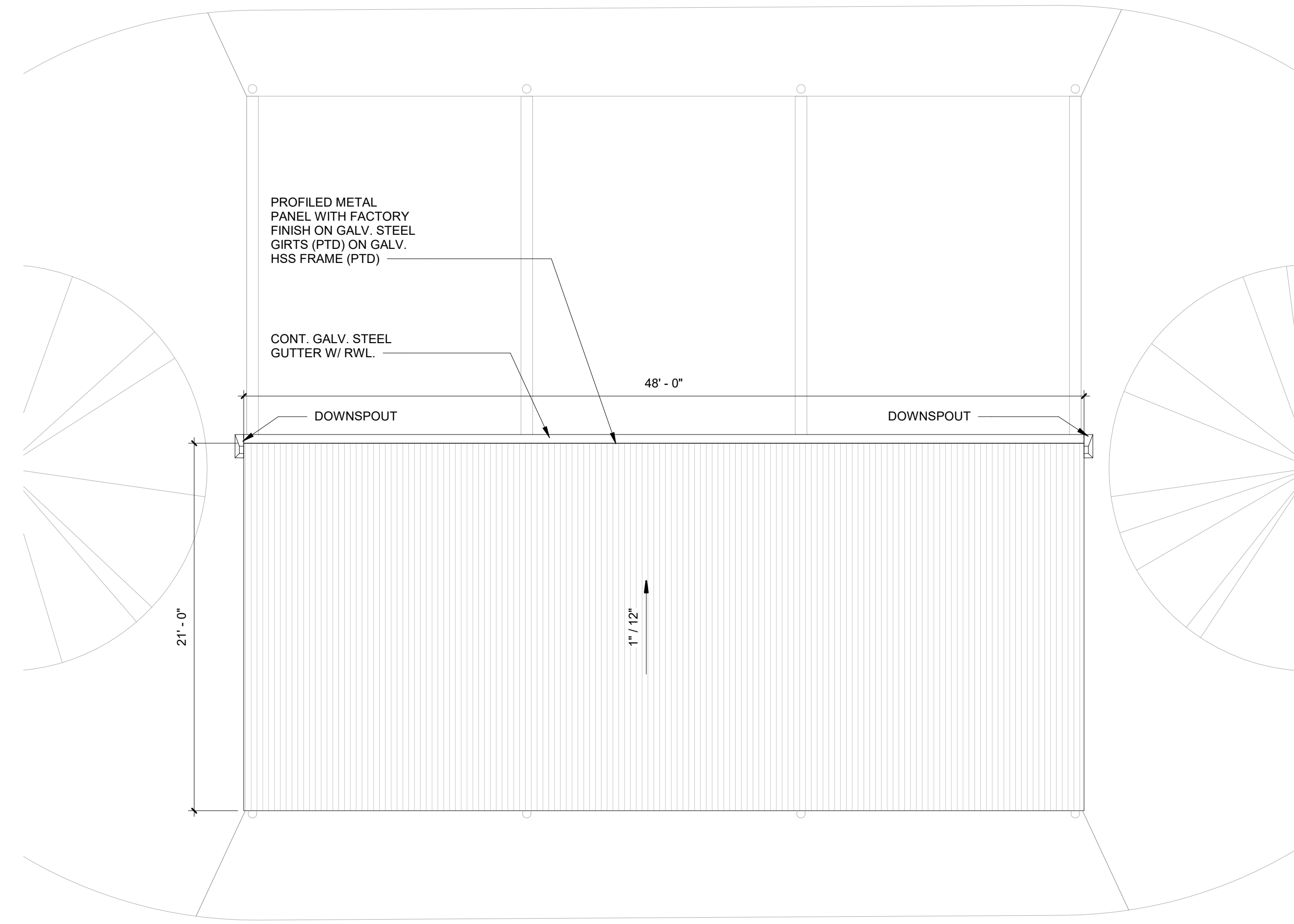
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SHEET NUMBER:

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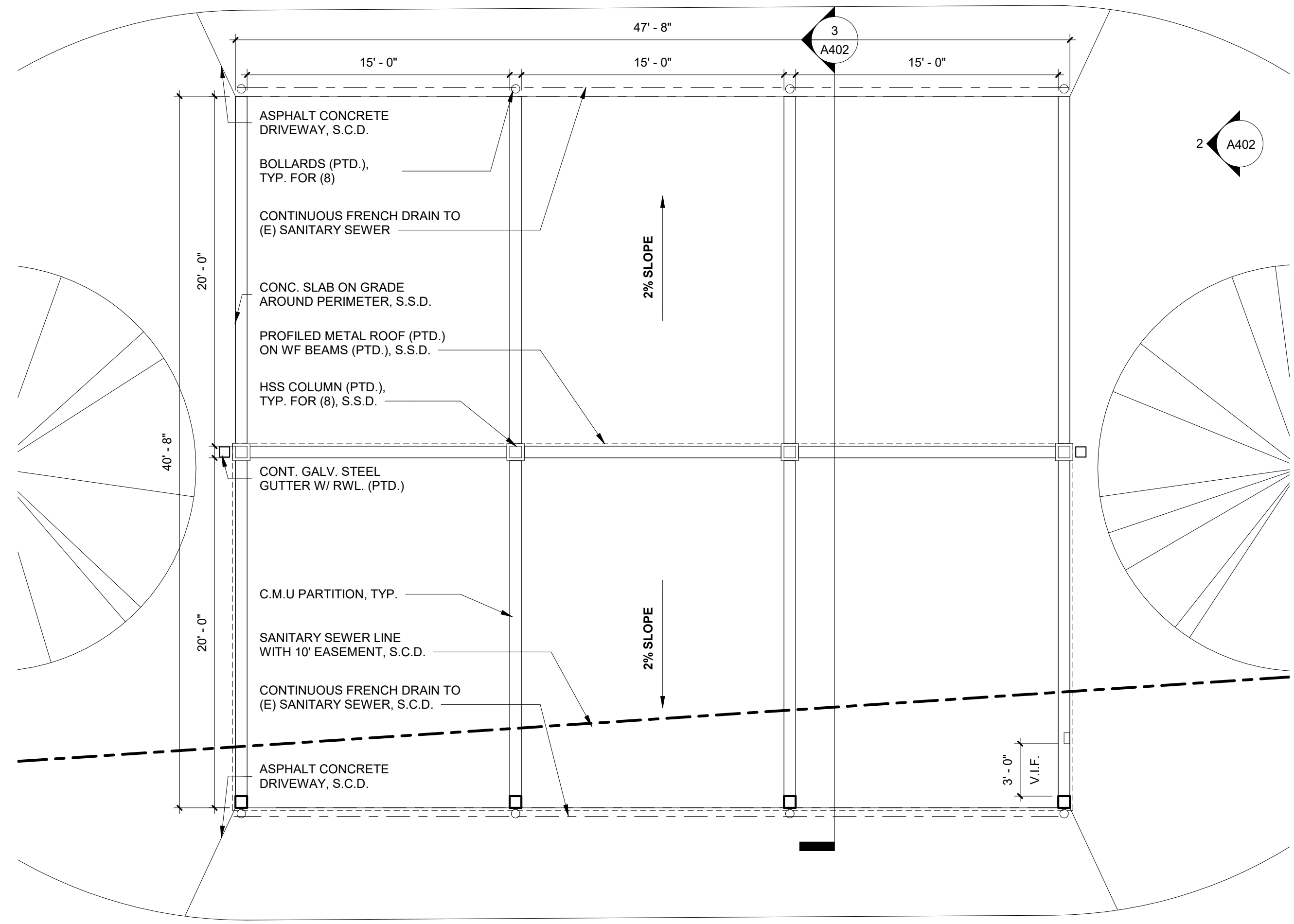
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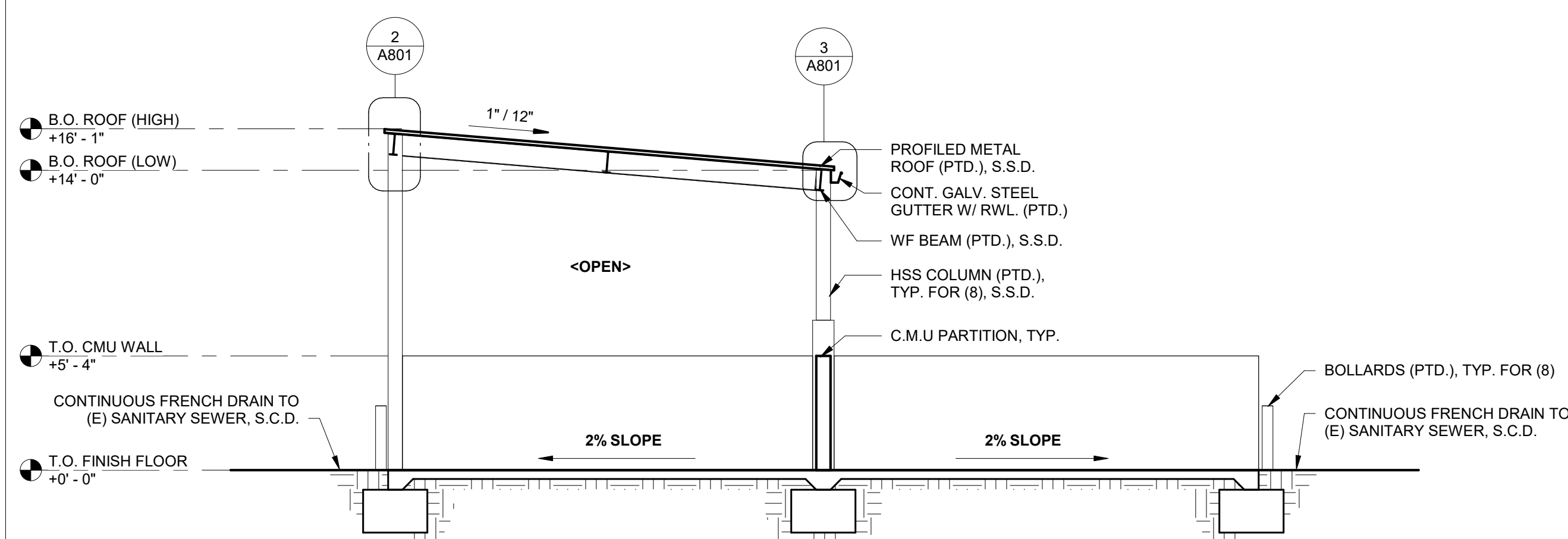
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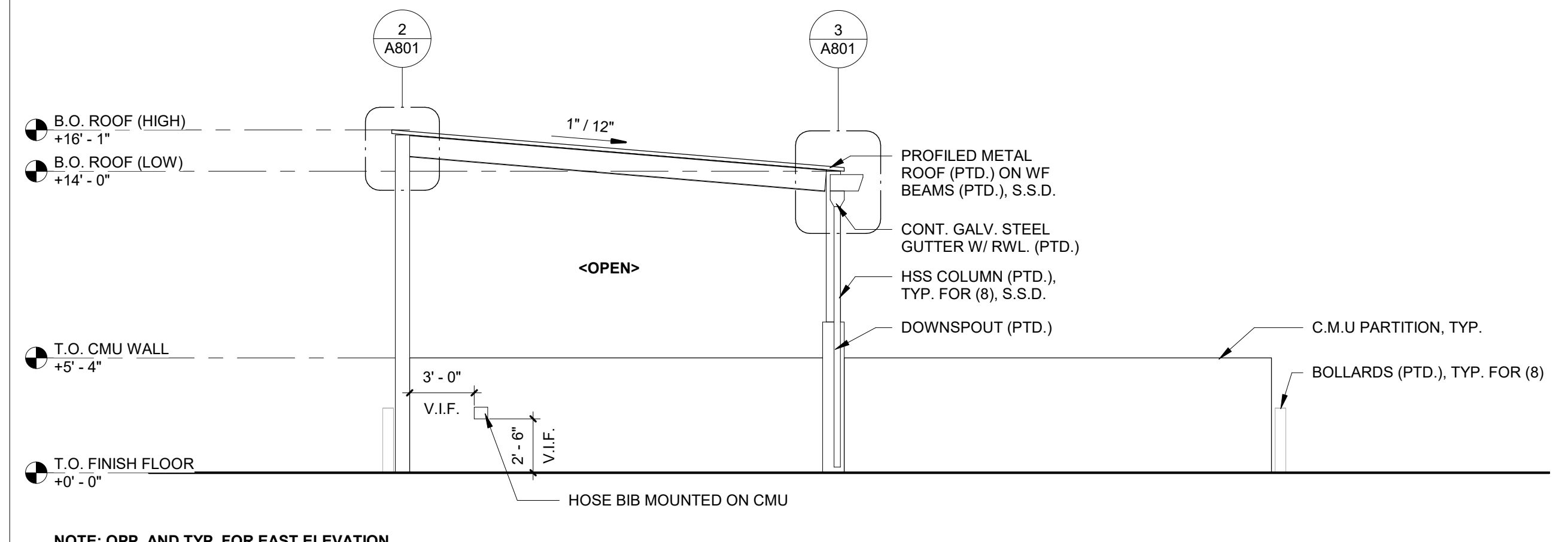
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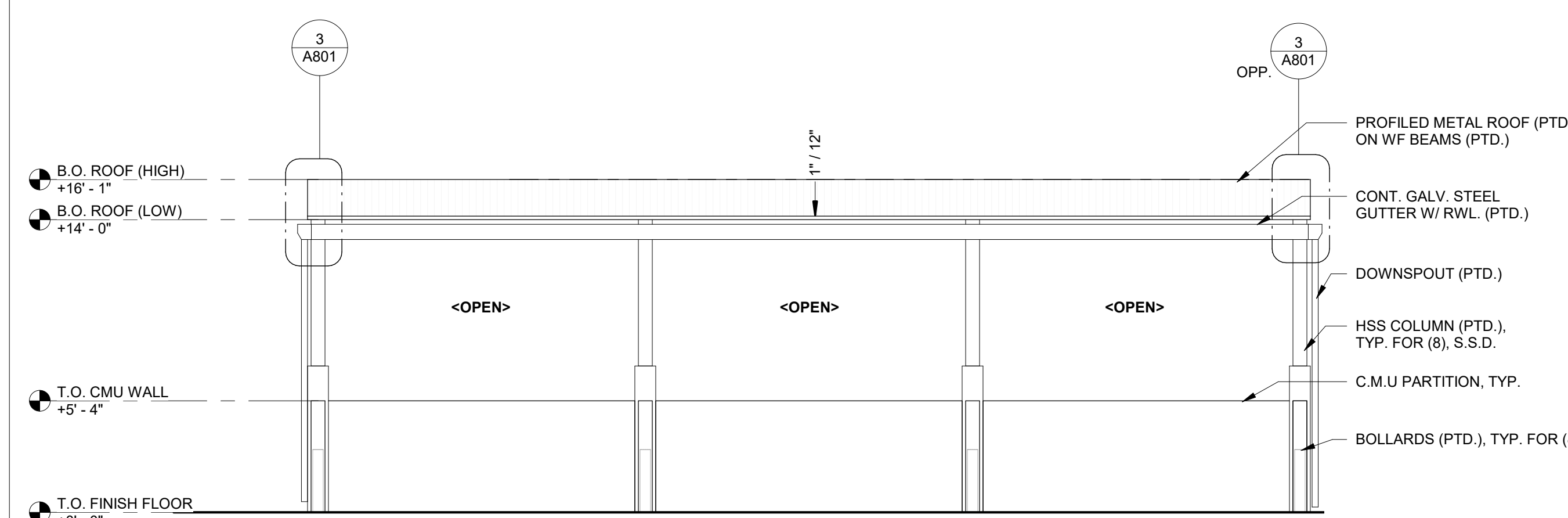
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3 TRASH / STORAGE ENCLOSURE - SECTION  
3/16" = 1'-0"



2 TRASH / STORAGE ENCLOSURE - WEST ELEVATION  
3/16" = 1'-0"



1 TRASH / STORAGE ENCLOSURE - SOUTH ELEVATION  
3/16" = 1'-0"

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ROOM FINISH SCHEDULE							
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	CEILING HEIGHT	COMMENTS
1	WORKSHOP						
2	STORAGE 1						
3	STORAGE 2						
4	OFFICE 1						
5	OFFICE 2						
6	ACCESSIBLE LOCKER ROOM						
7	MEETING / KITCHENETTE						
8	ACCESSIBLE RESTROOM AND SHOWER 1						
9	ACCESSIBLE RESTROOM AND SHOWER 2						

DOOR SCHEDULE												
DOOR #	OPENING DOOR SIZE			FIRE RATING	DOOR			FRAME			HDWR GROUP	COMMENTS
	WIDTH	HEIGHT	THICKNESS		TYPE	MATERIAL	FINISH	TYPE	MATL	FIN		
52	3'-6"	7'-0"	2"									
53	3'-6"	7'-0"	2"									
67	3'-0"	7'-0"	2"									
68	3'-0"	7'-0"	2"									
73	3'-0"	6'-8"	2"									
75	0'-0"	0'-0"	2"									
76	3'-0"	7'-0"	2"									
78	3'-0"	7'-0"	2"									

PAINT SCHEDULE**			
KEY	DESCRIPTION	COLOR	LOCATION
P1	BASE BUILDING	TBD	
P2	BASE BUILDING ACCENT	TBD	
P3	ACCENT 1	TBD	
P4	ACCENT 2	TBD	
P5	ACCENT 3	TBD	
P6	ACCENT 4	TBD	
P7	ACCENT 5	TBD	
P8	STRIPING	TBD	
PA*	ACCENT DOORS		

\*\*PAINT SCHEDULE DENOTES COLOR/DESIGN INTENT ONLY. SEE SPECIFICATION ON REQUIRED PAINT TYPE BY SUBSTRATE APPLICATION. PROVIDE COLOR MATCHING FOR A NON-BENJAMIN MOORE PAINT PRODUCTS.

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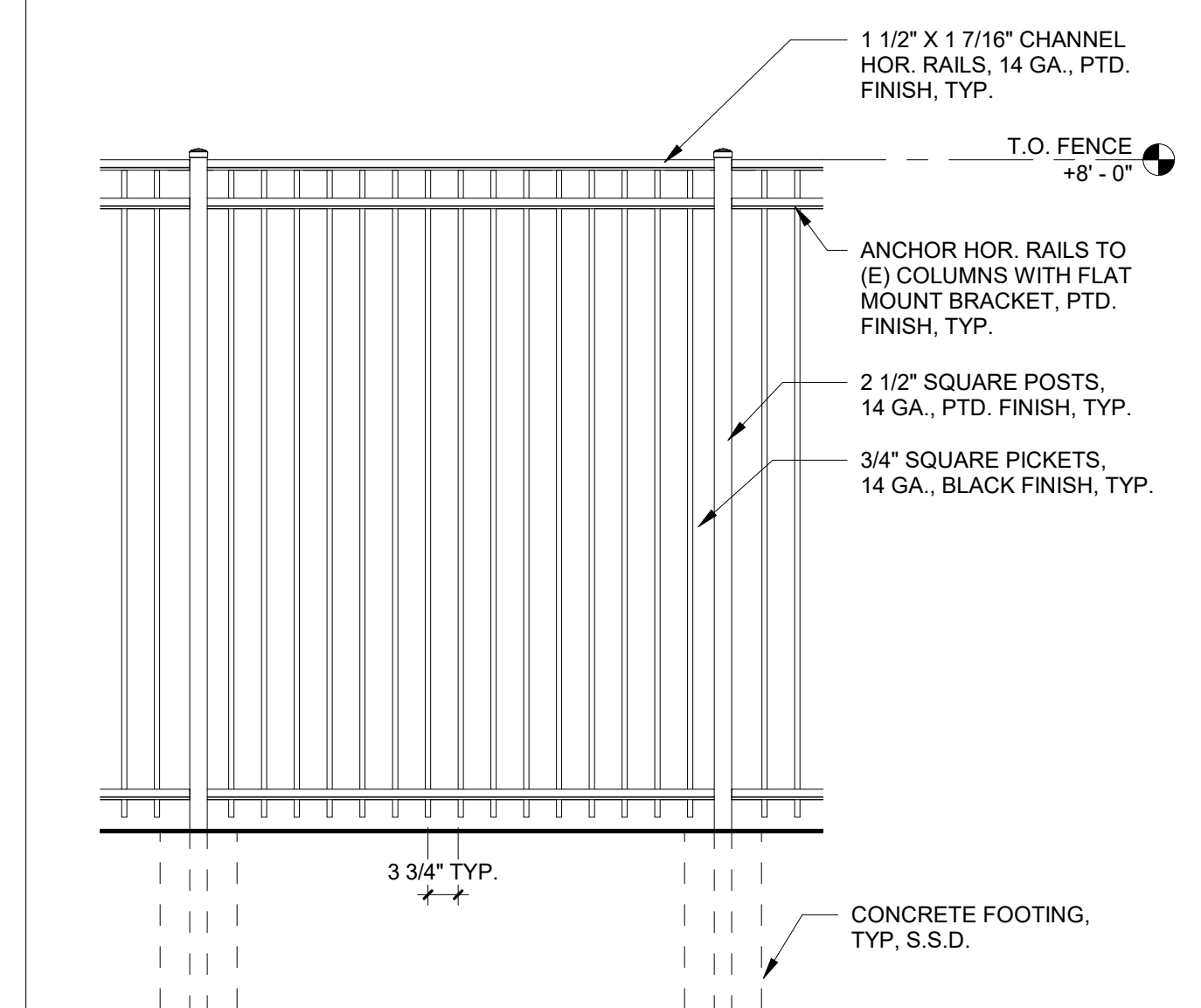
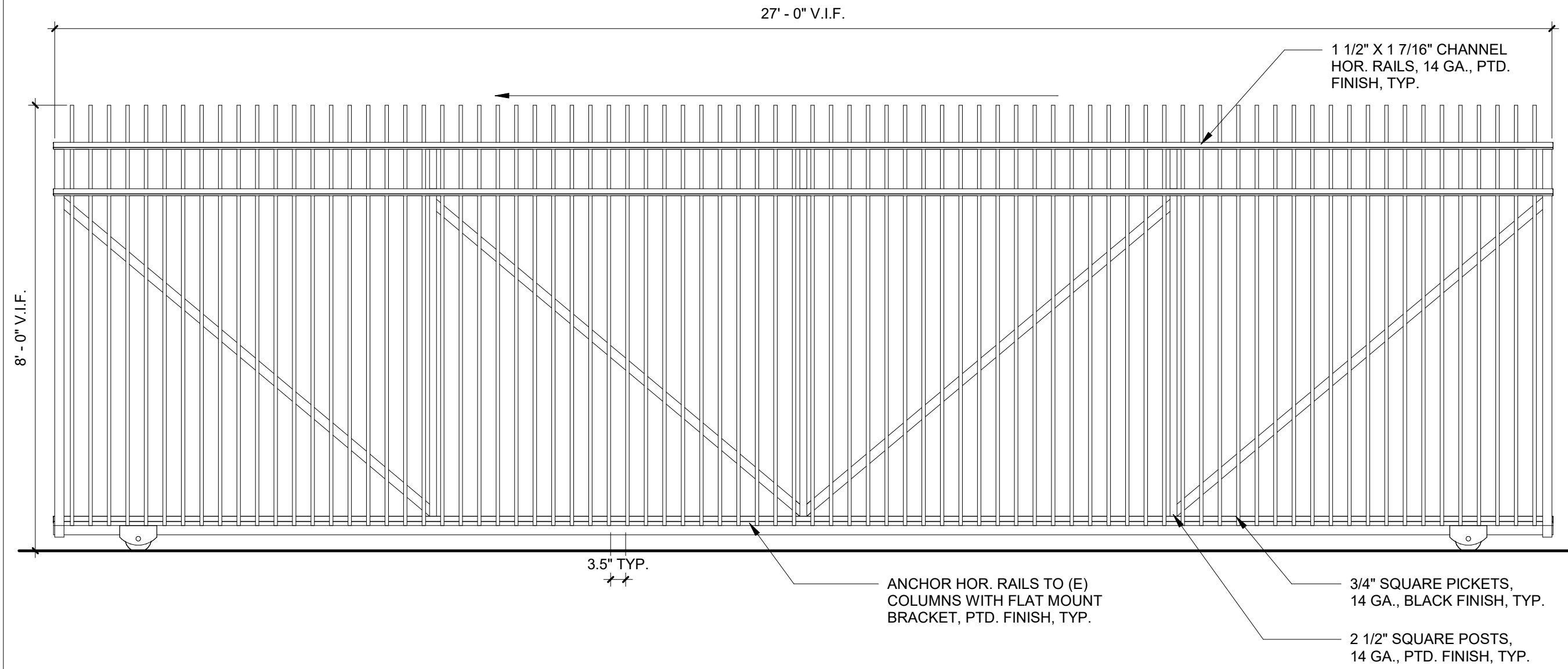
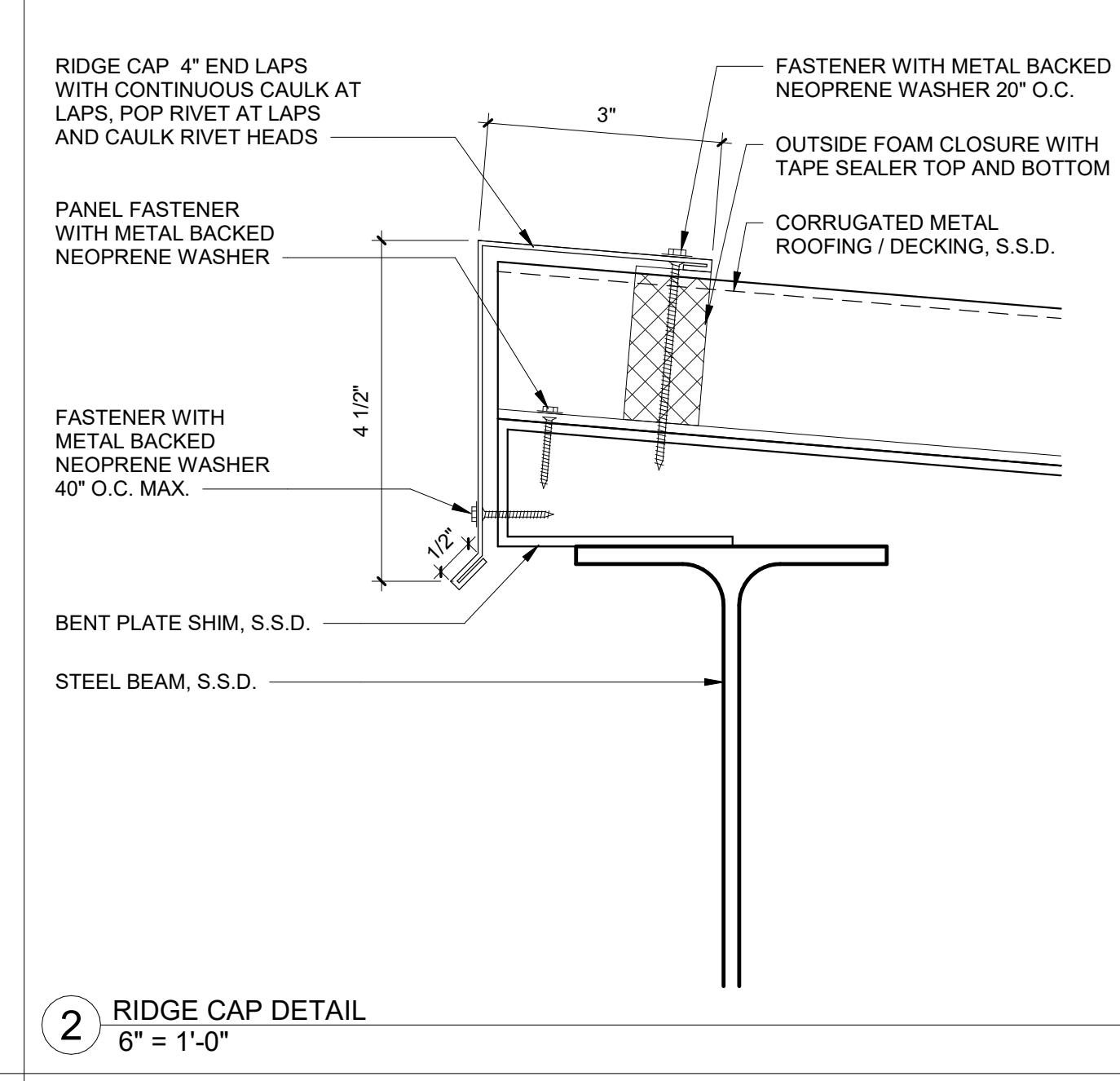
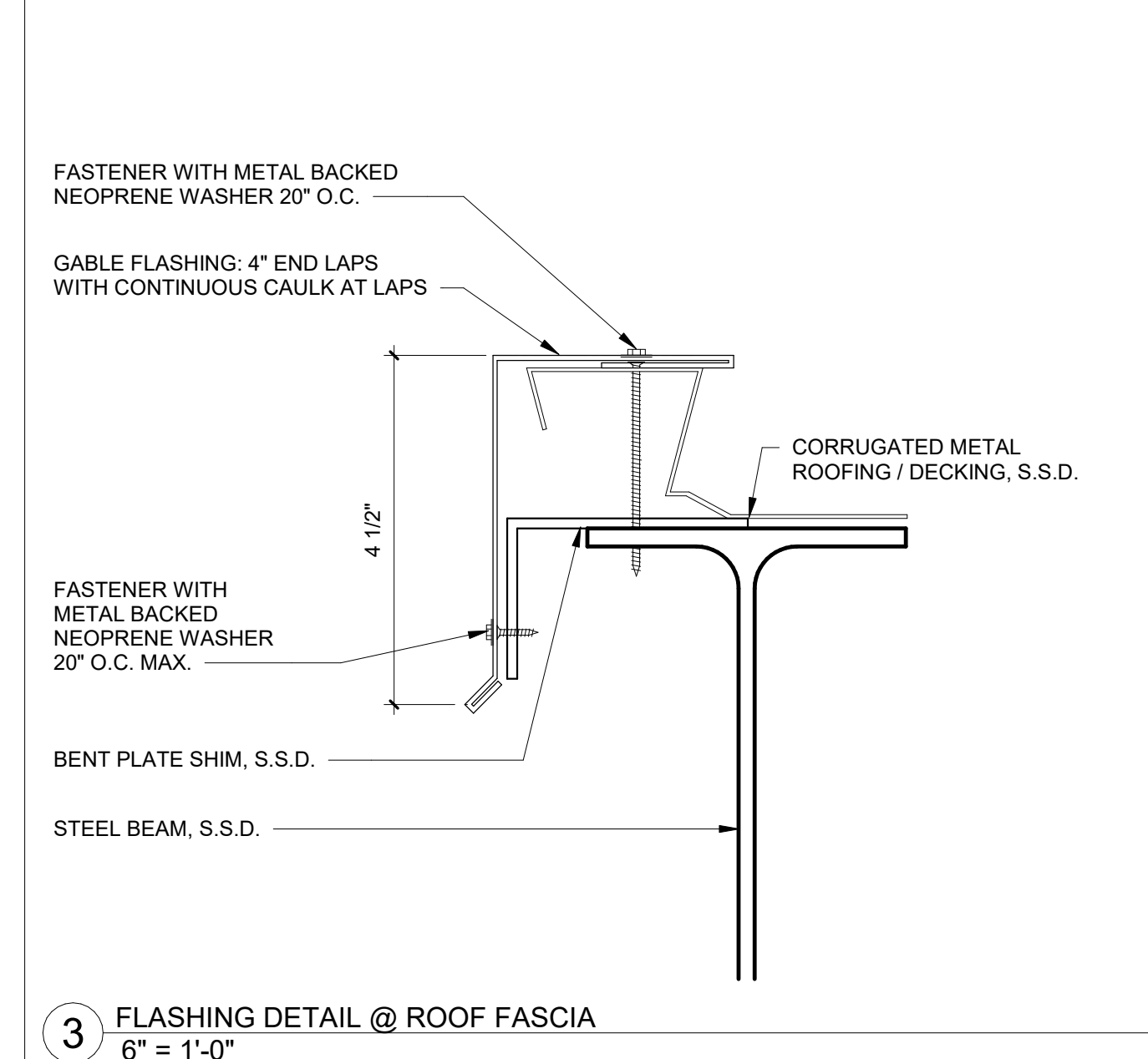
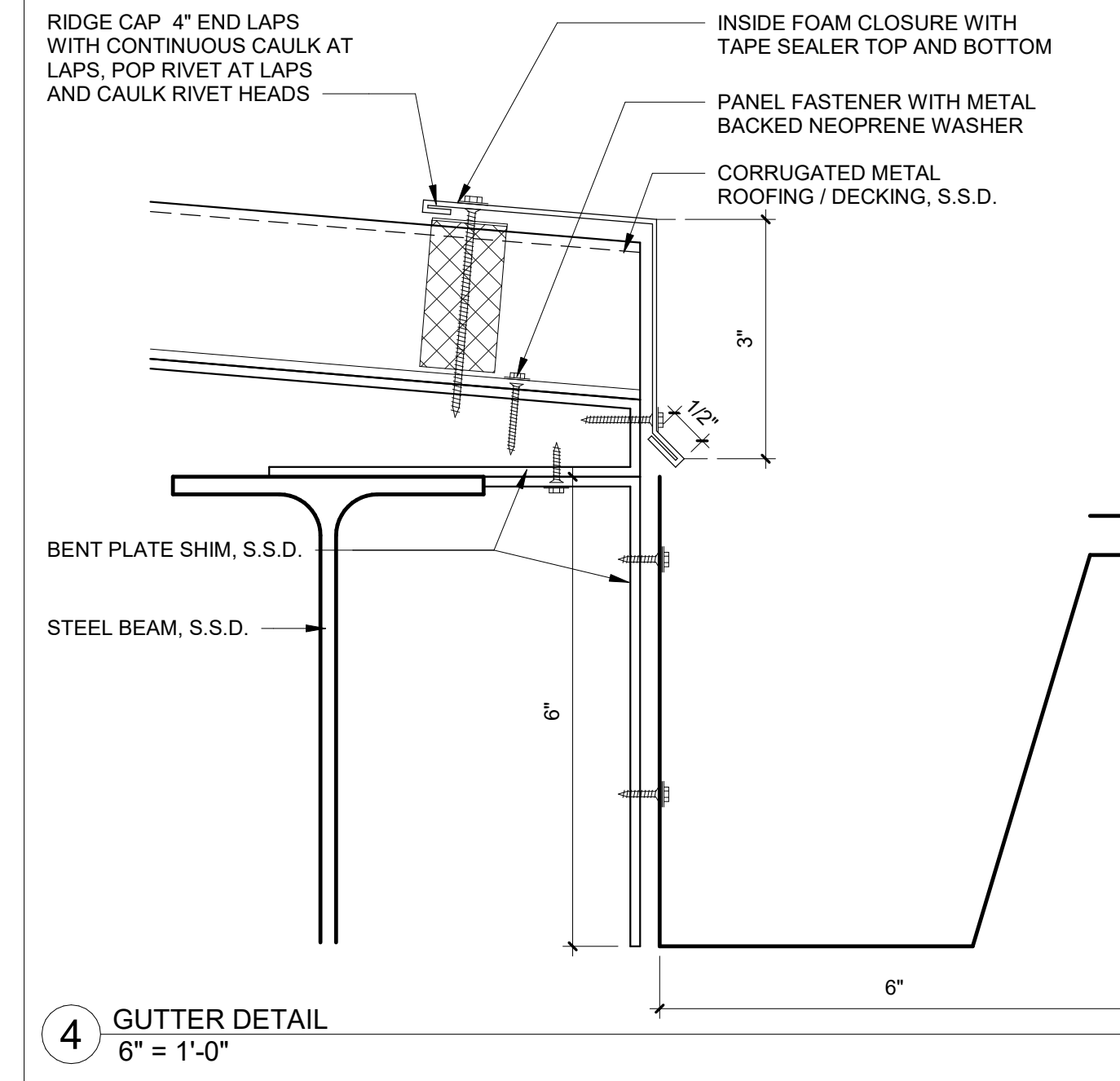
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## **APPENDIX B**

### **Biological Evaluations**





## **APPENDIX B1**

**Biological Resources Report**

**880 Stone Pine Road Project**

**H.T. Harvey & Associates**





**H. T. HARVEY & ASSOCIATES**

Ecological Consultants

50 years of field notes, exploration, and excellence



**880 Stone Pine Road Project  
Biological Resources Report**

**Project #4182-03**

Prepared for:

John Doughty  
**City of Half Moon Bay**  
501 Main Street  
Half Moon Bay, CA 94019

Prepared by:

**H. T. Harvey & Associates**

June 25, 2021

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Kelly Hardwicke, Ph.D., Senior Plant/Wetland Ecologist  
Jeff Wilkinson, Ph.D., Project Manager/Senior Wildlife Ecologist  
Mark Bibbo, M.S., Plant/Wetland Ecologist

# Section 1. Introduction

---

This report describes the biological resources present on the site at 880 Stone Pine Road in Half Moon Bay, California, where the City of Half Moon Bay (City) is considering future development; the potential biological impacts of future development activities; and measures necessary to reduce these impacts to less-than-significant levels under the California Environmental Quality Act (CEQA).

## 1.1 Project Location

The project site is located at 880 Stone Pine Road in Half Moon Bay, San Mateo County (Figure 1). It is located within the *Half Moon Bay California* 7.5-minute USGS quadrangle. The site is located between State Route (SR) 92 and Pilarcitos Creek near downtown Half Moon Bay. The site was previously used as a plant nursery and is now a public works yard.

For the purposes of our description of existing biological resources and potential impacts from future development, we identified a Biological Study Area (BSA) of approximately 44 acres that included the 21-acre project site itself as well as surrounding areas within 200 feet of the project boundary (Figure 2). The purpose of providing this BSA was to conform to the City of Half Moon Bay's Local Coastal Program requirements under Policy 6-8.

## 1.2 Project Description

The City is considering developing the public works yard at 880 Stone Pine Road. A specific project description has not been proposed for the development, and therefore specific impact locations have not been defined. It is conceivable that future development activities may disturb the majority of the site, although the City does not intend to disturb Pilarcitos Creek, a perennial marsh in the northwest corner of the site, or any Environmentally Sensitive Habitat Area (ESHA) avoidance buffers required by the City's Local Coastal Program. The project could also include limited impacts to riparian habitat and the riparian buffer associated with Pilarcitos Creek allowed under the City's Local Coastal Program, notably the creation of paths, trails, or other environmentally related educational uses (J. Doughty, pers. comm.).





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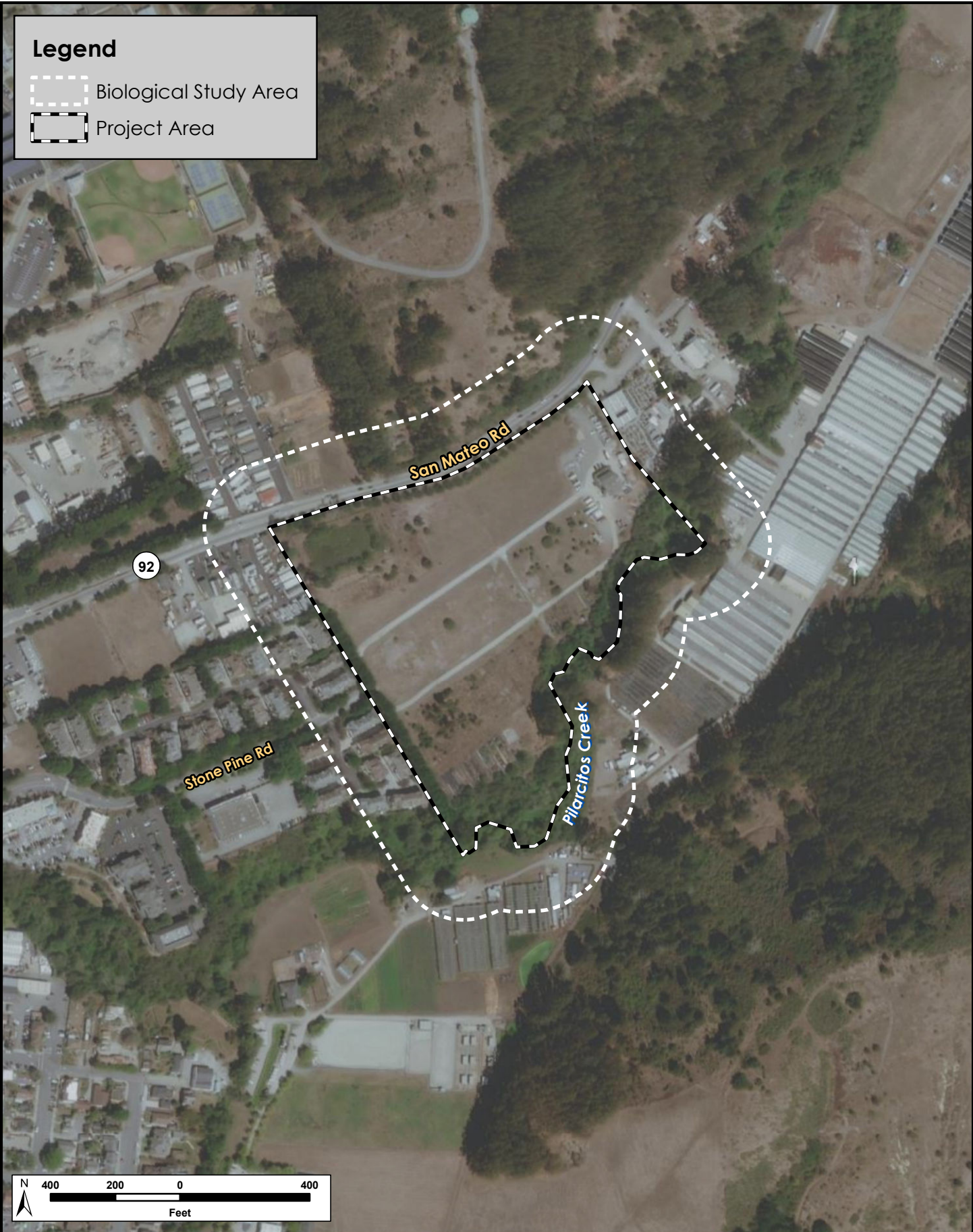
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**Figure 1. Vicinity Map**

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June 2021





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**Figure 2. Biological Study Area**

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June 2021



## Section 2. Methods

---

### 2.1 Background Review

Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed available background information pertaining to the biological resources on and in the vicinity of the BSA. Information was compiled and subsequently compared against site conditions during field surveys. The following sources were consulted:

- California Natural Diversity Database (CNDDDB) record search for the *Half Moon Bay, California* U.S. Geological Survey (USGS) 7.5-minute quadrangle (where the BSA occurs) and the surrounding five quadrangles: *Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda* (CNDDDB 2021)
- eBird record search for the *Half Moon Bay, California* U.S. Geological Survey (USGS) 7.5-minute quadrangle (where the BSA occurs) and the surrounding five quadrangles: *Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda* (Cornell Lab of Ornithology 2021)
- CNPS Rare Plant Program Inventory of Rare and Endangered Plants of California for the 7-5-minute quadrangles listed above (CNPS 2021) for Ranks 1-4 and for San Mateo County for Rank 4 species, for which records are not always maintained at the quadrangle level
- USFWS Information for Planning and Consultation tool (USFWS 2021a)
- Aerial photographs obtained from Google Earth Pro (Google, Inc. 2021)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey for soil types (NRCS 2021)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory for any existing aquatic features, including wetlands, streams, and sloughs (USFWS 2014)
- The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012)
- Half Moon Bay Riparian and Wetland Mitigation Site, Preliminary Mitigation and Monitoring Plan (H. T. Harvey & Associates and RMC 2010)
- Administrative Draft, Half Moon Bay Community Park and Analysis Report, Biological Section (H. T. Harvey & Associates 2005)

For the purposes of this report, the vicinity of the BSA is defined as the area within a 5-mile (mi) radius of the BSA. A map of CNDDDB records of special-status plants and natural communities of concern, and a map of CNDDDB records of special-status animals, are included as Figures 3 and 4, respectively. These generalized maps show areas where special-status species are known to occur or have occurred historically.







**LEGEND**

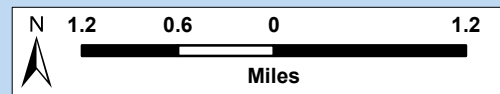
- Project Location
- 5 Mile Buffer
- California Red-legged Frog Critical Habitat
- Steelhead Critical Habitat

**CNDDDB Records**

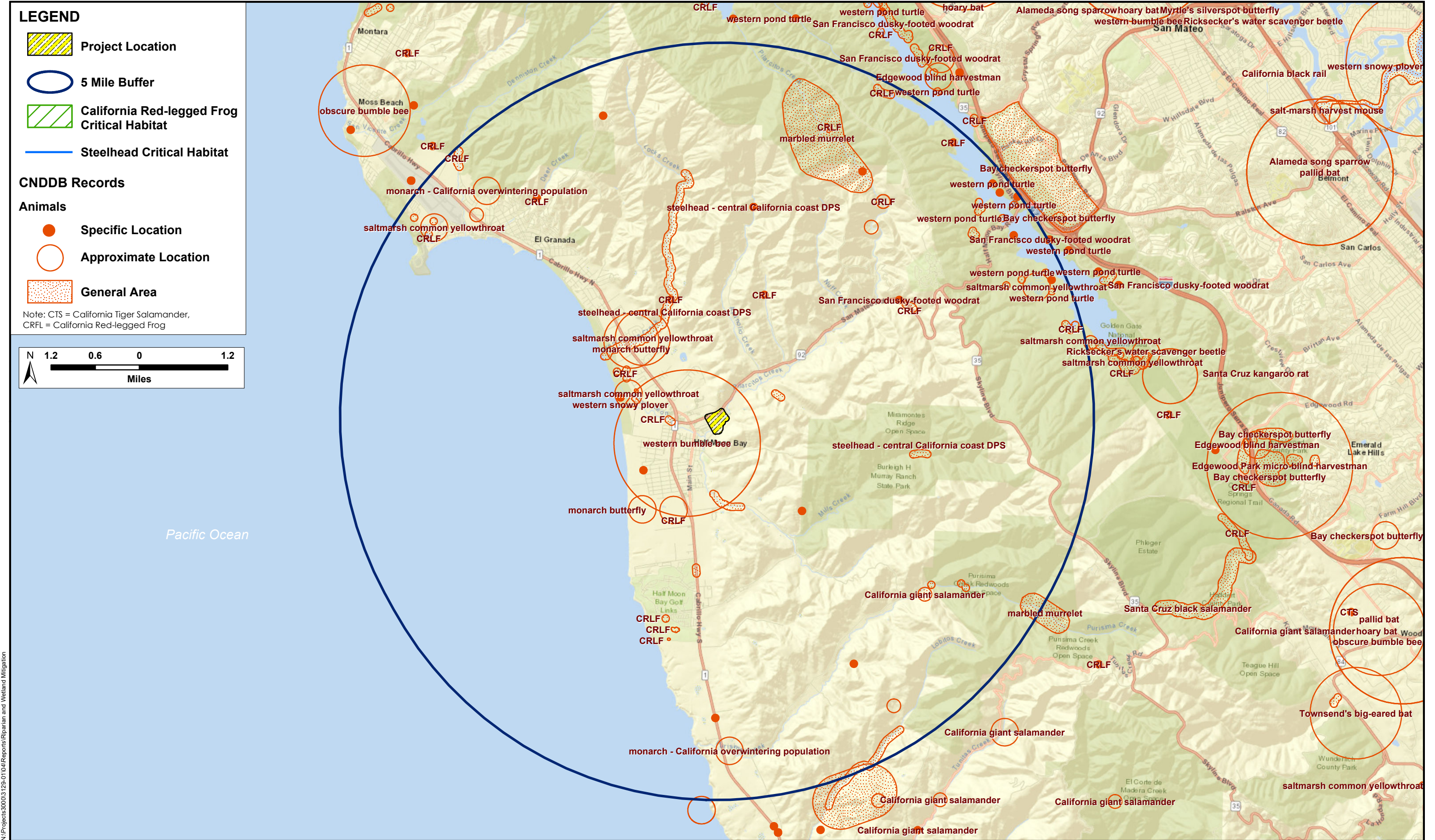
**Animals**

- Specific Location
- Approximate Location
- General Area

Note: CTS = California Tiger Salamander, CRFL = California Red-legged Frog



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Following our site visits, we also reviewed the City's *Local Coastal Land Use Plan 2020 Comprehensive Update* (City of Half Moon Bay 2020) for information on biological resources and City land use policies related to coastal resources.

## 2.2 Site Visit

A reconnaissance-level field survey of the BSA was conducted by H. T. Harvey & Associates senior wildlife ecologist Jeff Wilkinson, Ph.D., and by H. T. Harvey & Associates plant and wetland ecologist David Gallagher, M.S., on June 8, 2018. The purpose of this survey was to (1) assess existing biotic habitats and plant and animal communities in the BSA, (2) assess the BSA for its potential to support special-status species and their habitats, and (3) preliminarily identify potential jurisdictional habitats within the BSA, such as Waters of the U.S./State.

On June 12, 2020, H. T. Harvey & Associates plant ecologist, Mark Bibbo, M.S., performed a technical delineation of wetlands and other waters in the study area, in accordance with the *Corps of Engineers 1987 Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987). Additionally, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Regional Supplement) (USACE 2010) was followed to document site conditions relative to hydrophytic vegetation, hydric soils, and wetland hydrology. Mr. Bibbo mapped the extent and distribution of wetlands and other waters of the U.S. that may be subject to regulation under Section 404 of the Clean Water Act (CWA) as well as waters of the state that may be subject to regulation under the Porter Cologne Water Quality Control Act, which is administered by the RWQCB. The study area was also surveyed for areas that meet the physical criteria of a wetland according to the California Coastal Commission (CCC), as well as aquatic and riparian habitat that may be subject to regulation under Sections 1600-1607 of the California Fish and Game Code, which is administered by CDFW.

H. T. Harvey & Associates mapped biotic habitats within the BSA using a combination of field observations, recorded via the Apple iPad geographic information systems (GIS) Kit Pro application and aerial imagery signatures. Habitat types were distinguished using natural community descriptions discussed in Holland (1986) and Sawyer et al. (2009). Plant species within each habitat were identified using Baldwin et al. (2012). Habitat acreages were calculated using GIS and aerial imagery interpretation.

## Section 3. Regulatory Setting

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Biological resources in the BSA are regulated by a number of federal, state, and local laws and ordinances, as described below.

### 3.1 Federal

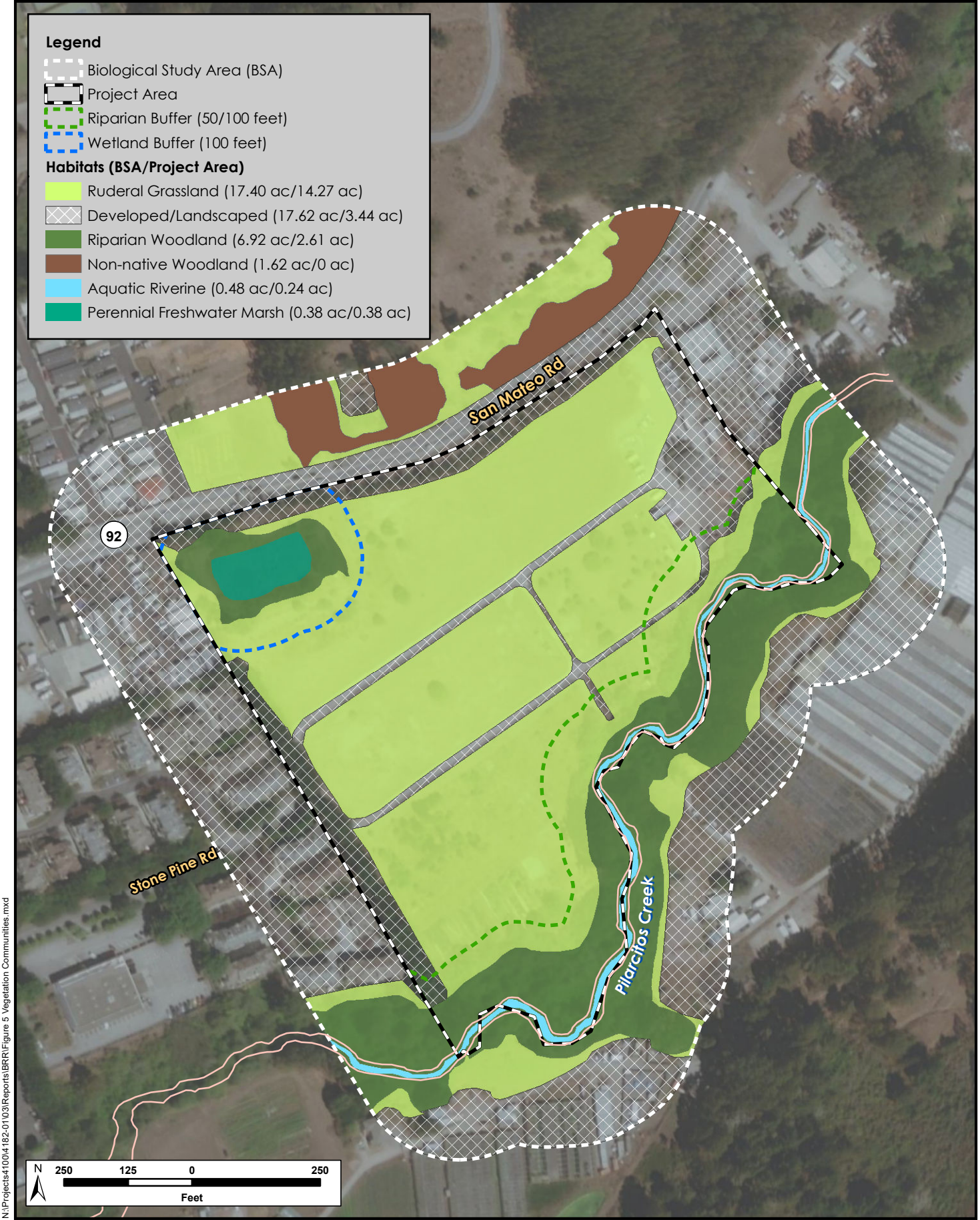
#### 3.1.1 Clean Water Act

As part of its mandate under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into “waters of the U.S.” Waters of the U.S. include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas “that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3(b)). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when it follows Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The EPA has veto authority over the USACE’s administration of the Section 404 program and may override a USACE decision with respect to permitting.

The USACE has specific guidelines for determining the extent of its jurisdiction. The methods of delineating USACE jurisdiction are defined in the 1987 Wetlands Delineation Manual (Environmental Laboratory, 1987), and the Arid West Manual (USACE 2008). The methods of delineating USACE jurisdiction are defined in the manuals and require examination of three parameters (soil, hydrology, and vegetation).

Substantial impacts to waters of the U.S. may require an Individual Permit. Projects that only minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, if other conditions of the permit are satisfied. A water quality certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. The State Water Resources Control Board (SWRCB) is the state agency (together with the Regional Water Quality Control Boards [RWQCBs]) charged with implementing water quality certification in California.

Project Applicability: Field surveys in 2018 and 2020 identified two biotic habitats which may be considered waters of the U.S./state and subject to jurisdiction by the USACE. Waters of the U.S./state include perennial aquatic riverine within the bed of Pilarcitos Creek, and a perennial freshwater marsh (Figure 5).



N:\Projects\41004\182-01\03\Reports\BRR\Figure 5 - Vegetation Communities.mxd



**H. T. HARVEY & ASSOCIATES**  
Ecological Consultants

**Figure 5. Habitat Types/Land Uses**  
880 Stone Pine Road Biological Resources Report (4182-03)  
June 2021



There are several dilapidated concrete channels and culverts present within the BSA that were excavated in uplands and were once part of the irrigation infrastructure from previous plant nursery operations. At the time of the site visits, these culverts and channels were vegetated with upland plant species and there was no evidence of inundation or water movement; therefore, these culverts and channels likely to do not convey water and would not be considered Waters of the U.S./state.

It is anticipated that any project proposed within the BSA would not involve impacts to Pilarcitos Creek below the OHWM, and per direction from the City, no impacts to the perennial freshwater marsh are anticipated. Therefore, we do not expect the project to need a USACE Section 404 permit.

### 3.1.2 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally 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.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: Pilarcitos Creek is designated as critical habitat for the federally threatened Central California Coast steelhead (*Oncorhynchus mykiss irideus*) Distinct Population Segment (NMFS 2005), and this species has been documented in Pilarcitos Creek (CDFW 2013, Center for Ecosystem Management and Restoration 2008, NMFS 2015). However, this segment of the creek does not support suitable spawning, rearing, or feeding habitat during most of the year due to the lack of channel complexity, appropriately-sized gravel, or connectivity with the adjacent floodplain, as well as high stream temperatures. Furthermore, the majority of habitat in the Pilarcitos Creek watershed is in poor condition (Phillip Williams & Associates 2008). Therefore, steelhead are expected to occur in the reach of Pilarcitos Creek within the BSA very infrequently and in low numbers during migration, if they are present at all. The federally endangered Central California Coast coho salmon (*Oncorhynchus kisutch*) may have historically occurred in Pilarcitos Creek, and the creek is designated habitat for this species (NMFS 1999). However, recent surveys and monitoring have not detected this species in the creek (CDFW 2013, Hager 2011 as cited in NMFS 2015), and this species is not currently known or expected to occur here. Because the project is not expected to impact the creek itself, we do not expect that FESA consultation with NMFS will be necessary for future project activities.

The federally threatened California red-legged frog (*Rana draytonii*) is known to occur in the BSA. California red-legged frog adults and juveniles were observed in the perennial freshwater marsh in the BSA in 2005 (H.

T. Harvey & Associates and RMC 2010). In addition, adults and larvae have been found in a breeding pond in the vicinity of Pilarcitos Creek about 1.3 mi northwest of the BSA as recently as 2016, and California red-legged frog adults were observed in Pilarcitos Creek about 0.5 mi west of the BSA in 2006 (CNDDDB 2021). The federally endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) has been recorded approximately 0.5 mi northwest of the BSA in Pilarcitos Creek and adjacent wetland areas (CNDDDB 2021). Suitable dispersal and foraging habitat for these two species occurs within the BSA. Implementation of avoidance and minimization measures will minimize the potential for the project to result in take of these species, though impacts to habitat and the possible need for relocation of individual red-legged frogs from the BSA (to avoid injury or mortality) could potentially constitute take, thus necessitating FESA consultation with the USFWS.

Six federally listed plant species are known to occur in the nine-quadrangle area encompassing the BSA (CNPS 2021, CNDDDB 2021): (1) San Mateo thornmint (*Acanthomintha duttonii*), endangered; (2) Crystal Springs fountain thistle (*Cirsium fontinale* var. *fontinale*), endangered; (3) San Mateo woolly sunflower (*Eriophyllum latilobum*), endangered; (4) Marin western flax (*Hesperolinon congestum*), threatened; (5) white-rayed pentachaeta (*Pentachaeta bellidiflora*), endangered; and (6) Hickman's cinquefoil (*Potentilla hickmanii*), endangered. While Hickman's cinquefoil can occur in perennial freshwater marshes, due to a lack of a suitable vegetation associations, the highly restricted range of this species, and it not being observed during surveys by qualified botanists in June 2018 and 2020, it is considered absent from the BSA. There is no suitable habitat for the remaining five species within the BSA, and therefore these five federally listed plant species are also considered absent from the BSA.

### **3.1.3 Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish Essential Fish Habitat (EFH) in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to recommendations by the NMFS.

Project Applicability: The Pacific Fishery Management Council (1999) identified Pilarcitos Creek as providing EFH for the coho salmon. However, as noted above, this species has not been recorded in the Pilarcitos Creek watershed during recent surveys (CDFW 2013, Hager 2011 as cited in NMFS 2015). As a result, this species is not currently known or expected to occur here, though NMFS may consider the creek to represent EFH based on the Pacific Fishery Management Council's description of EFH (1999).

### **3.1.4 Federal Migratory Bird Treaty Act**

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA



protects whole birds, parts of birds, and bird eggs and nests, and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described in its June 14, 2018 memorandum “Destruction and Relocation of Migratory Bird Nest Contents.” Nest starts (nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

Project Applicability: All native bird species that occur in the BSA are protected under the MBTA.

## 3.2 State

### 3.2.1 Clean Water Act Section 401/Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the State. Their authority comes from the CWA and the State’s Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the State as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California’s jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that “shallow” waters of the State include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB’s Assistant Executive Director, has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not explicitly described as waters of the state but instead as important buffer habitats to streams that conform to the State Wetland Definition. The Procedures for Discharges of Dredged or Fill Material to Waters of the State describe riparian habitat buffers as important resources that may be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs for impacts. The RWQCBs may impose mitigation requirements even if the USACE does not, and it should be noted that the State of California’s jurisdiction to regulate its water resources is much broader than that of the federal government. The SWRCB works in coordination with the RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its jurisdiction and has the authority to approve, with or without conditions, or deny projects that could affect waters of the state under CWA Section 401 and Porter-Cologne.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold state water quality standards. Because California’s jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the State require Water Quality Certification

even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA 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.

Project Applicability: Field surveys in 2018 and 2020 identified three biotic habitats which may be considered waters of the state and subject to jurisdiction by the RWQCB. Waters of the state include aquatic riverine, perennial freshwater marsh, and portions of riparian woodland, where riparian trees are rooted below the tops of the banks of Pilarcitos Creek or the perennial freshwater marsh impoundment (Figure 5). Although no impacts to Pilarcitos Creek or the perennial freshwater marsh are anticipated, Waste Discharge Requirements from the RWQCB would be needed if the project were to impact any riparian trees rooted below the tops of the banks of these waterbodies.

### **3.2.2 California Endangered Species Act**

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) 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 CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in “take” of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game 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.”

Project Applicability: As noted previously, the Central California Coast coho salmon, which is state listed as endangered, is not expected to occur in the reach of Pilarcitos Creek within the BSA. The state endangered San Francisco garter snake is present within the vicinity of the BSA, and suitable habitat is present in the BSA. Implementation of avoidance and minimization measures will avoid take of these species as defined by CESA.

The Santa Cruz Mountains subpopulation of mountain lion (*Puma concolor*) – recently accepted by the California Fish and Game Commission as a candidate species, warranted for listing under CESA (California Fish and Game Commission 2020) – is known to occur year-round within the surrounding vicinity of the BSA (Santa Cruz Puma Project 2018). Movement records of multiple mountain lions fitted with GPS-enabled wildlife-tracking collars have shown individual lions moving through the surrounding area of the BSA over the past 10 years (Santa Cruz Puma Project 2018). The BSA does not provide suitable breeding and denning habitat due to the level and frequency of human disturbances that occur within or near the BSA. Thus, individual mountain lions are expected to occur within the BSA very infrequently, if at all, and then only as transients as they move across their extensive home ranges. As a result, no take of this species (as defined by CESA) will result from the project.

There are seven state endangered, threatened, or candidate plant species that occur within the project vicinity with the potential to occur in the BSA. They include San Mateo thorn-mint, Crystal Springs fountain thistle, San Mateo woolly sunflower, white-rayed pentachaeta, Hickman's cinquefoil, Marin western flax, and coast yellow leptosiphon (*Leptosiphon croceus*). One state rare plant species protected under the California Native Plant Protection Act, Dudley's lousewort (*Pedicularis dudleyi*), is known to occur in the project region. Of these eight state listed or state rare plants, no species are anticipated to occur within the BSA. As mentioned above, suitable serpentine and or coastal scrub and prairie habitats are not present for the six species that are also federally listed. Coast yellow leptosiphon is found only on coastal bluffs, which are not present in the BSA, and Dudley's lousewort is found in redwood forest and chaparral habitats that are absent from the BSA, while the grasslands on site are too disturbed to be able to support the species. Additionally, no individuals of any state listed or rare species were observed during the field surveys conducted by qualified botanists in June 2018 and 2020. Therefore, state-listed or state-rare plants are considered absent and will not be impacted by the project.

### 3.2.3 California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA are known as the State CEQA Guidelines.

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the Inventory of Rare and Endangered Plants (CNPS 2017). The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA’s Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of “special concern” are tracked in Rarefind (CNDDDB 2021). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as a G1–G3, all the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program’s currently accepted list of vegetation alliances and associations (CDFG 2010a).

Project Applicability: All potential impacts on biological resources will likely be considered during CEQA review of any proposed project. This Biological Resources Report assesses these impacts to facilitate project planning and CEQA review of a project by the City. Project impacts are discussed in Section 6 below.

### **3.2.4 California Fish and Game Code**

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of

Regulations Section 1.72, as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” Using this definition, the CDFW extends its jurisdiction to encompass riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as “lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source.” The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of the CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, the CDFW would claim jurisdiction over a stream’s bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, the CDFW regulates any project proposed by any person that will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds.” California Fish and Game Code Section 1602 requires an entity to notify the CDFW of any proposed activity that may modify a river, stream, or lake. If the CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Specific sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW. Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered “take” by the CDFW.



Project Applicability: Field surveys in 2018 and 2020 identified two biotic habitats which may be subject to CDFW jurisdiction under Sections 1600-1603 of the California Fish and Game Code. The habitats include the aquatic riverine habitat within the bed of Pilarcitos Creek, and riparian woodland adjacent to Pilarcitos Creek (Figure 5). Most native bird, mammal, and other wildlife species that occur in the BSA and in the immediate vicinity are protected by the California Fish and Game Code.

### **3.2.5 State Requirements to Control Construction-Phase and Post-construction Water Quality Impacts**

#### **3.2.5.1 Construction Phase**

Projects in California must comply with state requirements to control the discharge of storm water pollutants under the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (SWRCB Order No. 2014-0077-DWQ, as amended) and the Statewide Construction General Permit (SWRCB Order No. 2009-0009-DWQ, as amended). Prior to the start of construction/demolition, a Notice of Intent must be filed with the SWRCB describing the project. A Storm Water Management Plan (SWMP) must be developed and maintained during the project and must include the use of best management practices (BMPs) to protect water quality until the site is stabilized.

Standard permit conditions under these permits require that the applicant utilize various measures, including on-site sediment control BMPs, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks. Additionally, both the Construction General Permit and Statewide Storm Water Permit do not extend coverage to projects if stormwater discharge-related activities are likely to jeopardize the continued existence, or result in take of any federally listed endangered or threatened species.

Project Applicability: The project will comply with the NPDES Statewide Storm Water Permit and Statewide Construction Permit; thus, construction-phase activities would not result in detrimental water quality effects on biological/regulated resources.

#### **3.2.5.2 Post-construction Phase**

In many Bay Area counties, including San Mateo County, projects must also comply with the San Francisco Bay RWQCB's Municipal Regional Stormwater NPDES Permit (Water Board Order No. R2-2009-0074, as amended). These policies, which are in line with the Statewide Storm Water Permit measures, require that all projects implement BMPs and incorporate Low Impact Development practices into project design that will prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site. In order to meet these permit and policy requirements, projects must incorporate features such as increased pervious surfaces, installing tree planters, grassy swales, and bioretention or detention basins.

Project Applicability: The project will comply with the Municipal Regional Stormwater NPDES Permit and the NPDES Statewide Storm Water Permit requirements. Therefore, post-construction activities would not result in detrimental water quality effects on biological/regulated resources.

### **3.2.6 California Coastal Act**

The California Coastal Act of 1976, administered by the California Coastal Commission, was created to provide long-term protection of California's 1,100-mile coastline for the benefit of future generations. Integral to the Coastal Act are its policies which provide for protection and expansion of public access to the shoreline and recreational opportunities and resources; protection, enhancement and restoration of environmentally sensitive habitats, including intertidal and nearshore waters, wetlands, bays, estuaries, riparian habitat, certain woodlands and grasslands, streams, lakes and habitat for rare or endangered plants or animals; protection of productive agricultural lands, commercial fisheries and archaeological resources; protection of the scenic beauty of coastal landscapes and seascapes; practical establishment of urban-rural boundaries and directing new housing and other development into areas with adequate services to avoid wasteful urban sprawl and leapfrog development; environmentally sound expansion of existing industrial ports and electricity-generating power plants, as well as for the siting of coastal dependent industrial uses; and protection against loss of life and property from coastal hazards.

The following are definitions given for specific ecological features that fall within the purview of the California Coastal Act: §30121 defines a wetland as: lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens; Commission Regulation §13577(b) elaborates: wetlands are lands where the water table is at near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuation of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats...; §30107.5 defines an Environmentally Sensitive Habitat Area as any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

Under the Coastal Act, local governments that lie in whole or in part within the Coastal Zone are required to prepare Local Coastal Programs (LCPs; Cal. Pub. Res. Code §30500). LCPs identify the location, type, densities, and other ground rules for future development in the coastal zone. Each LCP includes a land-use plan and its implementing measures. The Coastal Commission helps shape each LCP and then formally reviews them for consistency with Coastal Act standards. Once finalized, coastal permitting authority is transferred to the local government, with the exception of proposed development on the immediate shoreline, which stays with the Commission. In developing an LCP, a local government may choose to recognize specific botanical or wildlife resources as locally rare and that therefore garner protection.

Project Applicability: The entire BSA is within the Coastal Zone and subject to the City of Half Moon Bay Local Coastal Program. Projects approved by the City of Half Moon Bay under its LCP within Coastal Commission Appeals Jurisdiction are appealable to the Coastal Commission. The site is within the CCC Appeals Jurisdiction. See below for more details.

### 3.3 Local

#### 3.3.1 City of Half Moon Bay Local Coastal Program Land Use Plan

Under the California Coastal Act, the California Coastal Commission (CCC) regulates development in the coastal zone, including land and water use. Any activities within the coastal zone that affect aquatic resources, including wetlands, require a coastal development permit from either the CCC or a certified Local Coastal Program (LCP; Division 20 of the Public Resources Code). The CCC is responsible for protecting coastal resources and assessing potential impacts on wetlands and other waters subject to regulation under the California Coastal Act (Sections 30330-30344). The BSA is within the jurisdiction of Half Moon Bay's LCP. The City recently updated its LCP (City of Half Moon Bay 2020); it was adopted by the City Council in October 2020 and certified by the CCC in April 2021. Projects approved by the city of Half Moon Bay under its LCP within the Coastal Commission Appeals Jurisdiction are appealable to the Coastal Commission. The site is within the CCC Appeals Jurisdiction.

**City of Half Moon Bay Environmentally Sensitive Habitat Areas (ESHAs).** The City of Half Moon Bay LCP Land Use Plan (2020) includes provisions for protection of Environmentally Sensitive Habitat Areas (ESHAs). More specifically, The Half Moon Bay LCP prohibits any land use or development that would have significant adverse impact on sensitive habitat areas. Development in areas adjacent to sensitive habitats shall be sited and designated to prevent impacts that could significantly degrade the sensitive habitats. Section 18.38 of the Half Moon Bay Municipal Code (City of Half Moon Bay 2021) defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable and any area that meets one of the following criteria:

- Habitats containing or supporting rare and endangered species as defined by the State Fish and Game Commission.
- All perennial and intermittent streams and their tributaries.
- Riparian areas.
- Wetlands, coastal tidelands and marshes, lakes and ponds and adjacent shore habitats.
- Coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, including sea cliff faces.
- Areas used for scientific study and research concerning fish and wildlife, and existing game or wildlife refuges and reserves.

- Sand dunes.
- Marine habitats, including rocky intertidal zones.
- Sea cliffs.

Wetlands are broadly defined in Section 30121 of the California Coastal Act: “Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens.”

The Coastal Commission provides further specificity in their wetlands definitions to guide the process of wetland delineation. The CCC’s regulations (California Code of Regulations Title 14 (14 CCR)) establish a one parameter definition that only requires evidence of a single parameter (hydrology, hydric soils, or hydrophytic vegetation) to establish wetland conditions:

“Wetlands shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats.”

In contrast to the single-parameter definition that requires evidence of only one of three wetland indicators (hydrophytic vegetation, hydric soils, or saturated substrate), the USACE uses a three parameter definition that requires evidence of all three wetland indicators in order to classify an area as wetland. As a result, more areas qualify as wetlands under the Coastal Act than under the federal Clean Water Act. The LCP is consistent with the Coastal Act, and therefore uses the single-parameter definition.

The City of Half Moon Bay LCP defines "Riparian Area and Corridor" as an association of primarily native riparian plant and animal species within or adjacent to a watercourse. The boundary of a riparian corridor is defined by the limit of riparian vegetation or top of bank, or other confining topography, whichever is greater. The limit of riparian vegetation is determined by the drip line of canopy trees or the limit of riparian shrubs or herbaceous vegetation. This vegetation is generally interconnected by surface or subsurface flow within the watercourse. Within these boundaries, the intent of the LCP is to protect the ecosystem and any wildlife species it supports as whole, including the understory and emergent vegetation, the soil microbiology, and the water itself.

The LCP includes many measures to protect riparian habitat in Chapter 6, and defines a buffer of 50 feet outward from the limit of riparian vegetation along perennial streams or 100 feet from top of bank, whichever is greater (6-17 (a)) (Figure 5).

Project Applicability: The BSA is within the jurisdiction of the Half Moon Bay LCP and within the Coastal Zone. In accordance with the Coastal Act, many different types of projects including subdivisions, road extensions, grading, design review, and conditional use permits may require a Coastal Development Permit (CDP) to ensure that development within the Coastal Zone is consistent with all Local Coastal Program policies and the public access and public recreation policies of the Coastal Act. Field surveys in 2018 and 2020 identified four potential ESHAs which may be subject to jurisdiction under the Half Moon Bay LCP. These potential ESHAs include a perennial aquatic riverine habitat in the bed of Pilarcitos Creek, a perennial freshwater marsh, riparian woodland associated with Pilarcitos Creek, and riparian woodland (based on species composition, not due to being adjacent to a stream) adjacent to the perennial freshwater marsh impoundment.

### 3.3.2 Half Moon Bay Protected Trees

The City of Half Moon Municipal Code contains regulations protecting heritage trees. According to Chapter 7.40 a “heritage tree” means:

- A tree located on public or private property, exclusive of eucalyptus, with a trunk diameter of twelve inches or more, or a circumference of at least thirty-eight inches measured at forty-eight inches above ground level.
- A tree or stand of trees so designated by resolution of the city council based on its finding of special historical, environmental or aesthetic value, including a resolution adopted under former Chapter 12.16 of the City of Half Moon Bay Zoning Code.
- A tree located within the public right-of-way along the entire length of Main Street or along Kelly Avenue between San Benito Street and Highway 1. (Ord. C-2013-02 §1, 2013; Ord. C-2-12 §5, 2012; Ord. C-10-11 §1(part), 2011)

The removal of one or more heritage trees or major pruning as described in Section 7.40.040 requires a permit pursuant to procedures established by the city manager and requires the payment of a fee established by the city council. Additionally, the removal of a heritage tree pursuant to a permit issued under this chapter shall be replaced on a one-for-one basis with a minimum size twenty-four-inch-box specimen tree of a species and in a location approved by the city manager or his or her designee (Ord. C-10-11 §1(part), 2011).

Project Applicability: The BSA potentially includes heritage trees. Species include planted Monterey cypress (*Hesperocyparis macrocarpa*) and planted Monterey pine (*Pinus radiata*), mainly along the western edge of the BSA. Over 100 trees are present on the site; determining the heritage status of individual trees based on trunk size was not within the scope of this report. During detailed design of the project, removal of trees protected by the City heritage tree ordinance will be avoided and minimized to the extent feasible. Where removal of trees cannot be avoided, the project proponent will comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.



## Section 4. Environmental Setting

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### 4.1 General Biological Study Area Description

The approximately 21-acre (ac) project site is the site of a former plant nursery. A man-made impoundment is located in the northwest corner of the site. Additionally, there is infrastructure present from former nursery operations, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete-lined ditches, and irrigation pumps and pipes. During the June 2018 site visit, a large portion of the grassland had been recently mowed. Also, sections of the grassland were covered in wood chips. As such, the ground cloths and mulch inhibit vegetation growth. The BSA is bounded on the west by high-density development associated with the City of Half Moon Bay; on the north by SR 92, a heavily used road between Half Moon Bay and Interstate 280; on the east, between SR 92 and Pilarcitos Creek, and on both sides of Pilarcitos Creek, by various small agricultural parcels with associated infrastructure and development; and on the south by agricultural parcels along Pilarcitos Creek that opens to rural land, with the Miramontes Ridge Open Space Reserve to the southeast.

The climate at the BSA is coastal Mediterranean, with most rain falling in the winter and spring. Fog and cool temperatures are common in the summer. The mean annual precipitation for the Half Moon Bay area is 28.98 inches with the majority of the rainfall occurring between the months of November and April. (WorldClimate.com 2021). Elevations within the BSA range from approximately 60 ft) to 110 ft above sea level (WGS84) (Google, Inc. 2021).

### 4.2 Hydrology

Pilarcitos Creek, a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains through Pilarcitos Canyon and discharges into the Pacific Ocean, meanders through the southern edge of the BSA. The creek drains approximately 30 square miles and has numerous tributaries. The BSA is approximately 1.7 mi upstream from the mouth of the creek.

A manmade impoundment approximately 200 ft by 110 ft is located in the northwest corner of the BSA. The impoundment is a raised earthen embankment design and sits at an elevation of 114 ft (WGS84). Water was previously pumped into this impoundment from Pilarcitos Creek to be used by the nursery for its operations (H. T. Harvey & Associates and RMC 2010). The pump appears to be currently inactive. However, the impoundment continues to hold water and extensive emergent vegetation and is classified as perennial freshwater marsh habitat.

### 4.3 Soils

Based on a review of available soil survey maps for the area including those by the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS), the BSA is generally comprised of coarse sandy loam soils adjacent to Pilarcitos Creek, such as the Farallone soil series, and grade to finer textured clay loams, such as the Tierra soil series, upslope to SR 92 (NRCS 2021a). Soils across the BSA are generally greater than 60 inches in depth with the exception of areas in the northeastern portion of the site containing Gazos (GoF3 and Gv) soils, which are less than 30 inches to a root-restrictive layer. The Farallone loam, nearly level, Gullied land, Gullied land (Gazos-Lobitos soil material), and Tierra clay loam, moderately steep, eroded soil series (totaling 12.3 acres) are listed as hydric in San Mateo County on the National Hydric Soils List (NRCS 2021b). There are eight major soil series within the BSA and are summarized in Table 1 below:

**Table 1. Soils within the Project Site**

Soil Series	Acreage	Hydric
Farallone loam, nearly level (FaA)	8.8	Yes
Tierra loam, steep, severely eroded (TeE3)	3.1	No
Farallone coarse sandy loam, moderately steep, eroded (FcD2)	4.5	No
Gazos and Lobitos soils, steep and very steep, severely eroded(GoF3)	1.3	No
Gullied land (alluvial soil material; Gu)	1.7	Yes
Tierra loam, sloping, eroded (TeC2)	1.1	Yes
Gullied land (Gazos-Lobitos soil material; Gv)	0.7	Yes
Tierra clay loam, moderately steep, eroded (TcD2)	0.1	No

### 4.4 Biotic Habitats

Reconnaissance-level surveys identified six habitat types/land uses in the BSA/project site (Figure 5): ruderal grassland, developed/landscaped, riparian woodland, perennial freshwater marsh, aquatic riverine, and non-native woodland. These habitat types are depicted in Figure 5, and the acreages of each habitat type within the larger BSA and in the project boundaries are provided in Table 2. These habitats are described in detail below, and plant species observed during the reconnaissance survey are listed in Appendix A.

**Table 2. Habitat Types/Land Uses in the Biological Study Area and Project Site**

Habitat Type	BSA	Project Site
Ruderal Grassland	17.40	14.27
Developed/Landscaped	17.62	3.44
Riparian Woodland	6.92	2.61
Non-native Woodland	1.62	0.00
Aquatic Riverine	0.48	0.24
Perennial Freshwater Marsh	0.38	0.38

#### 4.4.1 California Annual Grassland

**Vegetation.** Ruderal (i.e., disturbed) annual grassland habitat occupies most of the BSA (Photo 1). At the time of the reconnaissance survey, this habitat was dominated by non-native grasses and forbs such as wild oat (*Avena* sp.), Italian rye grass (*Festuca perennis*), riggut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*) and Chile tarweed (*Madia sativa*). Of these, Italian rye-grass and bristly ox-tongue are technically scored as facultative hydrophytes (Lichvar et al. 2016),



**Photo 1. Ruderal grassland occurs in most of the BSA.**

or plants that sometimes occur in wetlands and sometimes occur in uplands, and both can potentially indicate moist conditions. However, Italian rye-grass often dominates upland areas as well, especially along the coast where frequent fog occurs, without indicating wetlands, and bristly ox-tongue is an invasive weed that can simply indicate disturbance and infestation. Additionally, there were scattered small patches of other facultative hydrophytic vegetation, including curly dock (*Rumex crispus*), poison hemlock (*Conium maculatum*), and bird's foot trefoil (*Lotus corniculatus*), all occurring in upland habitat positions and intermixed with upland grassland species. Similarly, scattered arroyo willow (*Salix lasiolepis*) and red alder (*Alnus rubra*) occur in the grassland in upland areas, and likely were able to establish due to irrigation, as no indicators of hydric soils or wetland hydrology occur in these areas. Many of the non-native species present on site are ranked as moderately invasive by the California Invasive Plant Council (Cal-IPC 2021). For example, Italian thistle has substantial and apparent, but not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure (Cal-IPC 2021).

**Wildlife.** Wildlife use of California annual grasslands in the BSA is limited by frequent human disturbance, an abundance of non-native and invasive species, and isolation of the grassland habitat remnants from more extensive grasslands. As a result, wildlife species associated with more extensive grasslands, such as the grasshopper sparrow (*Ammodramus savannarum*) and western meadowlark (*Sturnella neglecta*), are absent from the small patches of grassland in the BSA. Most of the bird species using this habitat during the breeding season most likely nest in nearby landscaped, freshwater marsh, or riparian areas, using the California annual grassland only for foraging. Such species include the mourning dove (*Zenaidura macroura*), lesser goldfinch (*Spinus psaltria*), dark-eyed junco (*Junco hyemalis*), American crow (*Corvus brachyrhynchos*), and Brewer's blackbird (*Euphagus cyanocephalus*). Similarly, a few species nesting on nearby buildings, such as the barn swallow (*Hirundo rustica*), rock pigeon (*Columba livia*), black phoebe (*Sayornis nigricans*), and European starling (*Sturnus vulgaris*), also forage on or over the California annual grassland habitat. Several other species of birds use the California annual grassland during the nonbreeding season. These species, which include the golden-crowned sparrow (*Zonotrichia*

*atricapilla*), savannah sparrow (*Passerculus sandwichensis*), and white-crowned sparrow (*Zonotrichia leucophrys*), forage on the ground or in herbaceous vegetation, primarily for seeds.

Few species of reptiles and amphibians occur in the California annual grassland in the BSA due to its disturbed nature and low habitat heterogeneity. Nevertheless, reptiles such as the western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*) occur in this habitat type, and amphibians such as the Pacific chorus frog (*Hyla regilla*) and western toad (*Anaxyrus boreas*), which might breed in the perennial freshwater marsh in the BSA, might also forage here. Small mammals expected to be present include the native western harvest mouse (*Reithrodontomys megalotis*) and nonnative house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*). Small burrowing mammals, such as the Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*), are likely present, and larger mammals, such as the striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and black-tailed jackrabbit (*Lepus californicus*) are also likely to occur here.

#### 4.4.2 Developed/Landscaped

**Vegetation.** Developed/landscaped habitat includes areas where permanent structures and/or pavement have been placed along with planted landscaping. Such landscaping includes native Monterey pine and Monterey cypress trees. However, these trees have been installed as part of a landscape plan and do not naturally occur on site. The developed/landscaped habitat type occurs along the northeastern edge of the BSA and consists of several buildings, Conex storage containers, and dirt parking areas. The buildings are in active use by the City of Half Moon Bay (Photo 2). Additionally, there are several unused dilapidated structures, including unused concrete channels and culverts present within the grassland and adjacent to the riparian habitat. The landscaping occurs along the west, east, and north perimeters of the BSA and is dominated by up to 200 planted Monterey cypress and Monterey pine trees.



**Photo 2. Developed/landscaped habitat in the northeast corner of the BSA.**

The buildings are in active use by the City of Half Moon Bay (Photo 2). Additionally, there are several unused dilapidated structures, including unused concrete channels and culverts present within the grassland and adjacent to the riparian habitat. The landscaping occurs along the west, east, and north perimeters of the BSA and is dominated by up to 200 planted Monterey cypress and Monterey pine trees.

**Wildlife.** The wildlife most often associated with developed/landscaped areas are those that are tolerant of periodic human disturbances, including introduced species such as the European starling, rock pigeon, house mouse, Norway rat, and black rat. Numerous common, native species are also able to utilize these habitats, especially the landscaped areas, including the western fence lizard, striped skunk, and a variety of birds, such as the American crow, Anna's hummingbird (*Calypte anna*), California towhee (*Melospiza crissalis*), bushtit (*Psaltriparus minimus*), and California scrub-jay (*Aphelocoma californica*). In addition, unused dilapidated structures present within the grassland and adjacent to the riparian habitat, may be attractive to other nesting and/or roosting bird species in the area, such as the black phoebe. Further, the several Monterey cypress and Monterey pine trees



along the around the west, east, and north perimeters of the BSA may provide suitable nesting habitat for raptors, such as red-tailed hawks (*Buteo jamaicensis*). An examination of trees and structures in the BSA did not detect any large cavities that might provide suitable bat roosting habitat. Therefore, large roosting or maternity colonies of bats are not expected to occur in the BSA.

#### 4.4.3 Riparian Woodland

**Vegetation.** Riparian woodland habitat is found along Pilarcitos Creek and around the perennial freshwater marsh. Trees observed in the riparian woodland habitat along Pilarcitos Creek include arroyo willow, red willow (*Salix laevigata*), red alder, and blue gum (*Euclayptus globulus*). The understory is an impenetrable thicket of Himalayan blackberry (*Rubus armeniacus*), cape ivy (*Delairea odorata*), poison hemlock, common horsetail (*Equisetum arvense*), French broom (*Genista monspessulana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), bristly ox-tongue, pampass grass (*Cortaderia jubata*), and Italian rye grass (Photo 3).



**Photo 3. Riparian habitat along Pilarcitos Creek (in the background), which runs along the entire southern edge of the BSA.**

The dominant tree in the riparian woodland surrounding the perennial freshwater marsh is arroyo willow (*Salix lasiolepis*). While this area is not adjacent to a flowing watercourse or associated with a bed and banks drainage, the species composition is similar to nearby riparian woodland along Pilarcitos Creek and most resembles a riparian woodland habitat as described in the City's LCP (2020). Species observed in the understory include poison hemlock, Italian rye grass, Himalayan blackberry, pampass grass, Italian thistle, and common velvetgrass (*Holcus lanatus*).

Many of these non-native forb species are ranked as highly or moderately invasive by the California Invasive Plant Council (Cal-IPC 2021). For example, cape ivy, pampas grass, French broom, and Himalayan blackberry are classified as highly invasive and have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Species such as poison hemlock, Italian thistle, and common velvetgrass are classified as moderately invasive and have substantial and apparent, but not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure (Cal-IPC 2021).

**Wildlife.** The riparian woodland provides suitable nesting habitat for a variety of common, resident bird species such as the California scrub-jay, American robin (*Turdus migratorius*), American crow, lesser goldfinch, and bushtit. Numerous species of migratory birds also use this riparian woodland. These include species such as



the black-headed grosbeak (*Pheucticus melanocephalus*), Wilson’s warbler (*Cardellina pusilla*), and Swainson’s thrush (*Catharus ustulatus*) that breed in this habitat but migrate south for winter, and the ruby-crowned kinglet (*Regulus calendula*), Townsend’s warbler (*Setophaga townsendi*), and hermit thrush (*Catharus guttatus*) that occur here only in winter. The red-shouldered hawk (*Buteo lineatus*) and Cooper’s hawk (*Accipiter cooperii*) may use larger trees along the riparian woodland corridors for nesting. However, no old raptor nests were detected within the riparian woodland habitat during the reconnaissance survey.

Arboreal salamanders (*Aneides lugubris*), western fence lizards, and western skinks (*Eumeces skiltonianus*) are expected to occur in riparian habitat in the BSA. Additional wildlife species that are common within riparian woodland areas in urban settings include the striped skunk and raccoon, and the non-native Virginia opossum and eastern gray squirrel (*Sciurus carolinensis*), all of which may use the trees for roosting, foraging, and nesting opportunities. Individual bats may be attracted to riparian areas to roost in trees. However, examination of the trees along the banks of Pilarcitos Creek and in the BSA did not detect any large cavities that might provide suitable habitat for a large roosting or maternity colony of bats.

#### 4.4.4 Perennial Freshwater Marsh

**Vegetation.** The perennial freshwater marsh occurs within an impoundment in the northwest corner of the BSA. The impoundment was constructed between 1987 and 1991 (Google Inc. 2021; NETR 2021), used for irrigation purposes, and was filled by an on-site water pump (Photo 4). At the time of the site visit, the water pump appeared non-functional and is not likely used to currently pump water into the marsh. Thus, the hydrology that feeds the marsh is likely a combination of a groundwater table and surface runoff. The marsh was ponded during the site visits at a depth of approximately 2 ft, and was dominated by common cattail (*Typha latifolia*). Based on the berms enclosing the impoundment, maximum ponding depth is approximately 4 ft, though without water being pumped into the basin it is likely that it does not pond at that depth currently. Other species observed include duckweed (*Lemna* sp.), rabbitsfoot grass (*Polypogon monspeliensis*), and tall flatsedge (*Cyperus eragrostis*). The marsh is surrounded by riparian woodland (see Section 4.4.3 above), and is fenced off from the rest of the parcel.



**Photo 4. Dense cattail-dominated perennial freshwater marsh in the west side of the BSA. Riparian habitat surrounds the marsh.**

**Wildlife.** Normally, the presence of a perennial freshwater marsh on a site would provide habitat for a diverse suite of wetland-associated wildlife species. However, the relatively small size, scarcity of open water, and dynamic ponding depth of the perennial freshwater marsh in the BSA preclude many wetland and aquatic

wildlife species from using these features. Waterbirds such as ducks, gulls, and terns are not expected to occur in this freshwater perennial marsh. Similarly, passerine birds associated with more extensive wetlands, such as the marsh wren (*Cistothorus palustris*), are not expected to nest here, although the San Francisco common yellowthroat (*Geothlypis trichas sinuosa*) could nest in this marsh. Amphibians such as the Pacific chorus frog, western toad, and the federally threatened California red-legged frog may breed here, and the federally and state endangered San Francisco garter snake may forage here. Terrestrial species that occur in adjacent habitats, such as house finches (*Haemorhous mexicanus*), bushtits, yellow-rumped warblers (*Setophaga coronata*), black phoebes, and sparrows, will forage occasionally in the freshwater wetland vegetation.

#### 4.4.5 Aquatic Riverine

**Vegetation.** Within the BSA, Pilarcitos Creek is a perennial freshwater stream with a connection to groundwater. It flows overland through the southern portion of the BSA (Photo 5). It originates approximately 12 mi northeast of the BSA on the eastern flanks of Montara Mountain in the Santa Cruz Mountains, then flows south through Pilarcitos Canyon before turning westward to enter the BSA. The creek exits the BSA near the southwestern boundary and discharges into the Pacific Ocean approximately 1.7 mi downstream of the BSA. Within the BSA, Pilarcitos Creek flows through dense riparian woodland and provides unvegetated aquatic habitat. Pilarcitos Creek has been identified as a USGS blue-line stream course as well as a USFWS palustrine resource, and as of June of 2018 and 2019, was flowing up to 10 inches (in) deep within a 6-ft wide channel.

**Wildlife.** The aquatic habitat within Pilarcitos Creek supports native fish species such as the California roach (*Hesperoleucus symmetricus*), hardhead (*Mylopharodon conocephalus*), and threespine stickleback (*Gasterosteus aculeatus*). In addition, the federally threatened Central California Coast steelhead and California red-legged frog, and federally and state endangered San Francisco garter snake have been documented within Pilarcitos Creek (CDFW 2013, CNDDDB 2021). Pacific chorus frogs, California newts (*Taricha torosa*), western pond turtles (*Actinemys marmorata*), non-native bullfrogs (*Lithobates catesbeianus*) and crayfish (*Pacifastacus leniusculus*) may be present in the creek, and birds such as the green heron (*Butorides virescens*), and belted kingfisher (*Ceryle alcyon*) likely forage in the creek. Bats forage aerially on insects over Pilarcitos Creek. During the reconnaissance survey, two unidentified species of bat were observed foraging amongst the trees along the edge of the channel, just upstream from the BSA.



**Photo 5. Pilarcitos Creek, which runs through the BSA along the southern boundary.**

## Section 5. Special-Status Species and Sensitive Habitats

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CEQA requires assessment of the effects of a project on species that are protected by state, federal, or local governments as “threatened, rare, or endangered”; such species are typically described as “special-status species”. For the purpose of the environmental review of the project, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in Section 3.0 above.

For purposes of this analysis, “special-status” plants are considered plant species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as CRPR 1A, 1B, 2, 3, or 4.

For purposes of this analysis, “special-status” animals are considered animal species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Information concerning threatened, endangered, and other special-status species that potentially occur in the BSA was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described in Section 2.1 above. Figure 3 depicts CNDDDB records of special-status plant species in the general vicinity of the BSA and Figure 4 depicts CNDDDB records of special-status animal species. These generalized maps show areas where special-status species are known to occur or have occurred historically.

### 5.1 Special-Status Plant Species

A list of 73 special-status plant species thought to have some potential for occurrence within the BSA was compiled using the CNPS rare plant inventory (CNPS 2021) and CNDDDB records (CNDDDB 2021). Analysis of the documented habitat requirements and occurrence records of these plants, and our plant ecologist’s knowledge of sensitive species considered, allowed us to reject 72 of the 73 species as not having a reasonable potential to occur within the BSA for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the species is presumed

extirpated or is not expected to occur in the Project vicinity due to range; and/or (4) the site is too disturbed to be expected to support the species. As the BSA is largely composed of historically manipulated agricultural land, as well as areas with little habitat value (developed land cover), the BSA does not have the capacity to support most special-status plants. Additionally, large sections of the BSA appear to be covered with wood chips as well as regularly mowed. The CNDDDB shows records for the CNPS-ranked species coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), Kellogg's horkelia (*Horkelia uneate* subsp. *sericea*), Choris's popcorn-flower (*Plagiobothrys chorisianus* var. *chorisianus*), Kings Mountain manzanita (*Arctostaphylos regismontana*), Anderson's manzanita (*Arctostaphylos andersonii*), Franciscan onion (*Allium peninsulare* var. *franciscanum*), western leatherwood (*Dirca occidentalis*), and Crystal Springs lessingia (*Lessingia arachnoidea*) occurring within 5 miles of the BSA. However, no suitable salt marsh habitat (coastal marsh milk-vetch), coastal prairie habitat (Choris's popcorn-flower), scrub or chaparral habitat or sandy soils (manzanita species and Kellogg's horkelia), or serpentine soils (Franciscan onion, Crystal Springs lessingia) occur within the BSA, and the site is too disturbed to support western leatherwood, which was also not observed on site during reconnaissance surveys. Therefore, despite nearby records, all of these species are considered absent from the BSA.

Appendix B lists these plants along with the basis for the determination of absence. Suitable habitat and edaphic requirements were determined to be present in the BSA for one plant species, Harlequin lotus (*Hosackia gracilis*), which is discussed in detail below.

**Harlequin lotus, CNPS List: 4.2.** Harlequin lotus is a perennial rhizomatous herb in the legume (Fabaceae) family that occurs in wetlands, wet roadside ditches, and mesic areas in many plant communities (CNPS 2021); therefore, this species could occur within the perennial freshwater marsh and surrounding riparian woodland, the riparian woodland along Pilarcitos Creek, the ephemeral ditch, and possibly mesic areas within the California annual grassland. However, it was not observed during the field-level reconnaissance survey conducted in June 2018 at the height of its bloom period. It has a CRPR of 4.2 (i.e., watch list for plants of limited distribution or are infrequent throughout a broader area in California; moderately threatened in California). It is known mainly from coastal areas as far north as Del Norte County and as far south as San Luis Obispo County. It is threatened by development, grazing, feral pigs, habitat alteration, and competition. This species is thought to be a larval food plant of the federally endangered lotis blue butterfly (*Lycæides argyrognomon* ssp. *lotis*). Within San Mateo County, recent recorded occurrences are from coastal prairie and coastal scrub habitats within Año Nuevo State Park as well as McNee Ranch State Park., near Montara. The blooming period for this species extends from March through July. Although this species was not observed during its blooming period during reconnaissance surveys, the dense riparian woodland provides at least marginally suitable habitat on the lower banks. A focused survey would be necessary to definitively confirm presence of absence, though such a survey is necessary only if an LCP-compatible use is proposed within the riparian corridor.

## 5.2 Special-Status Animal Species

The legal status and likelihood of occurrence in the BSA of special-status animal species known to occur, or potentially occurring, in the region of the BSA are presented in Appendix C. Most of the special-status species



listed in Appendix C are not expected to occur in the BSA because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat. Animal species not expected to occur in the BSA for these reasons include the Bay checkerspot butterfly (*Euphydryas editha bayensis*), mission blue butterfly (*Plebejus icarioides missionensis*), Myrtle's silverspot butterfly (*Speyeria zerene myrtilae*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), Crotch bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*), Delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), tidewater goby (*Eucyclogobius newberryi*), California giant salamander (*Dicamptodon ensatus*), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), Santa Cruz black salamander (*Aneides niger*), American badger (*Taxidea taxus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), Alameda song sparrow (*Melospiza melodia pusillula*), bank swallow (*Riparia riparia*), burrowing owl (*Athene cunicularia*), and marbled murrelet (*Brachyramphus marmoratus*).

Six special-status animal species have the potential to occur in the BSA only as visitors, migrants, or transients, but are not expected to reside or breed, or occur in large numbers, or otherwise make substantial use of the BSA. These species include the monarch butterfly (*Danaus plexippus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), American peregrine falcon (*Falco peregrinus anatum*), northern harrier (*Circus cyaneus*), and mountain lion.

Expanded descriptions are provided below for seven species that could potentially breed in the BSA or for which additional information is necessary due to the species' frequency or regularity of occurrence in the BSA.

### 5.2.1 Federal and State Endangered and Threatened Species

**Central California Coast Steelhead (*Oncorhynchus mykiss irideus*). Federal Listing Status: Threatened; State Listing Status: None.** The Central California Coast (CCC) steelhead DPS was listed as a threatened species on August 18, 1997 (NMFS 1997), and the threatened status was reaffirmed on January 5, 2006 (NMFS 2006). Critical habitat was designated for the CCC steelhead DPS on September 2, 2005 (NMFS 2005), and a final recovery plan was published in October 2016. Similar to CCC coho salmon, steelhead populations in many areas have declined due to degradation of spawning habitat, introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversions (NMFS 1997). In addition, non-native fish species, such as striped bass (*Morone saxatilis*), common carp (*Cyprinus carpio*), and white catfish (*Ameiurus catus*), may pose risks to native steelhead populations through predation, competition, and habitat modification. Increasing predation pressure at river mouths and in the ocean from the growing California sea lion population is also posing significant risk to CCC steelhead.

Steelhead are found along the entire Pacific Coast of the United States. The CCC steelhead DPS includes all naturally spawned populations of steelhead in coastal streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; and tributary streams to Suisun Marsh including Suisun



Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), exclusive of the Sacramento-San Joaquin River Basin of the California Central Valley.

Steelhead in the CCC DPS are winter-spawning steelhead, maturing in the ocean and spawning shortly after entering freshwater. Winter steelhead enter rivers and streams in the late fall and winter months when higher flows and associated lower water temperatures occur. Adult female steelhead will prepare a redd (or nest) in a gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter, and are usually free of rooted or aquatic vegetation. The length of the incubation period is dependent on water temperature. Fry emerge from the gravel, and rear along the stream margins, moving gradually into pools and riffles as they grow larger. Young juveniles feed primarily on aquatic invertebrate drift.

In California, juveniles usually live in freshwater for 2 years (Barnhart 1986) with a range of one to 3 years (Shapovalov and Taft 1954, Busby et al. 1996) then smolt and migrate to the sea; because of this multi-year rearing time period, steelhead can only spawn in tributaries that maintain suitable temperature and other water quality parameters year-round. Most downstream smolt migration takes place between February and June. Fukushima and Lesh (1998) report the peak timing of steelhead smolt outmigration in Central California occurs in March, April, and May, while Barnhart (1986) reports most steelhead smolts in California enter the sea in March and April.

In a recent survey of coastal drainages south of San Francisco Bay, steelhead populations were either extinct or reduced in size from historical levels in at least half of the 168 surveyed mainstem streams and primary tributaries (Titus et al. in prep). In addition, only 14 percent of the streams had steelhead present where there was no discernible, significant change from historical production levels. Steelhead in most tributaries to San Francisco and San Pablo bays have been virtually extirpated (McEwan and Jackson 1996).

CCC Steelhead are known to occur in Pilarcitos Creek (CDFW 2013, CNDDDB 2021); however, passage upstream is impeded at multiple culverts, and the Pilarcitos Creek Watershed Assessment Plan identified the majority of habitat in the watershed to be in “poor” condition (Phillip Williams & Associates 2008). Opportunities to protect and restore fish passage and habitat connectivity within the watershed, such as road crossing improvements, have been developed and are being implemented under the watershed assessment plan. This effort could improve habitat conditions and increase the local presence of adult and juvenile CCC steelhead.

Habitat conditions in the BSA are suitable to support freshwater migration of adult and juvenile CCC steelhead. The BSA does not support suitable habitat for spawning, rearing, or feeding during most times of the year due to the lack of channel complexity, gravels, or connectivity with an adjacent floodplain. As a result, steelhead are only present in the section of Pilarcitos Creek in the BSA during upstream and downstream migration, which occurs late fall into spring.

Designated critical habitat for CCC steelhead includes aquatic habitat within the BSA (NMFS 2005). One of the primary constituent elements (PCEs) of critical habitat essential to the conservation of the species is present within the BSA. This PCE consists of freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival. These features are essential to conservation because without them juveniles cannot use the variety of habitats that allow them to avoid high flows, avoid predators, successfully compete, begin the behavioral and physiological changes needed for life in the ocean, and reach the ocean in a timely manner. Similarly, these features are essential for adults because they allow fish in a nonfeeding condition to successfully swim upstream, avoid predators, and reach spawning areas on limited energy stores. PCEs for CCC steelhead that do not occur in the BSA include freshwater spawning and rearing, as well as estuarine and marine habitats.

**California Red-legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern.** California red-legged frogs inhabit perennial freshwater pools, streams, and ponds throughout the Central California Coast Range as well as isolated portions of the western slopes of the Sierra Nevada (Fellers 2005). Their preferred breeding habitat consists of deep perennial pools with emergent vegetation for attaching egg clusters (Fellers 2005), as well as shallow benches to act as nurseries for juveniles (Jennings and Hayes 1994). Nonbreeding frogs may be found adjacent to streams and ponds in grasslands and woodlands, and may travel up to 2 mi from their breeding locations across a variety of upland habitats (Bulger et al. 2003, Fellers and Kleeman 2007).

The historical distribution of California red-legged frogs extended from the city of Redding in the Central Valley and Point Reyes National Seashore along the coast, south to Baja California, Mexico. The species' current distribution includes isolated locations in the Sierra Nevada and the San Francisco Bay area, and along the central coast (USFWS 2002). The California red-legged frog was listed as threatened in June 1996 (USFWS 1996) based largely on a significant range reduction and continued threats to surviving populations (Miller 1994). Revised critical habitat was designated in March 2010 (USFWS 2010a). No critical habitat for this species overlaps the BSA, but critical habitat Unit SNM-1 (San Mateo) is located approximately 0.08 mi southeast of the BSA (Figure 5; USFWS 2010a).

California red-legged frog adults and larvae have been found in a breeding pond in the vicinity of Pilarcitos Creek about 1.3 mi northwest of the BSA as recently as 2016, California red-legged frog adults were observed in Pilarcitos Creek about 0.5 mi west of the BSA in 2006, and California red-legged frog adults and juveniles were observed in the perennial freshwater marsh in the BSA in 2005 (H. T. Harvey & Associates and RMC 2010, CNDDDB 2021). Due to the presence of juvenile frogs, it is likely there was active breeding in the perennial freshwater marsh during the observations. Since these observations, no recent species-specific surveys of this species have been conducted in the BSA.

If still present, California red-legged frog use of the site would be foraging and dispersal in Pilarcitos Creek and foraging, dispersal, and possibly breeding in the perennial freshwater marsh. The use of this species of the BSA

outside of these habitats would be for upland dispersal in the annual grassland between the perennial freshwater marsh and the creek, but they may disperse elsewhere as well. It is therefore possible that California red-legged frogs could disperse throughout the entire BSA. Frogs are most likely to disperse in the spring and early summer when juveniles would leave the pond, and adults may move to and from the perennial freshwater marsh during warm winter rains. During the wet season, frogs may be found in upland areas around the creek and marsh. They are generally considered to forage up to 300 feet from aquatic habitat.

**San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*). Federal Listing Status: Endangered; State Listing Status: Endangered.** The historical distribution of the San Francisco garter snake included wetland areas on the San Francisco peninsula from the San Francisco County line south along the eastern and western foothills of the Santa Cruz Mountains to at least Upper Crystal Springs Reservoir and Año Nuevo Point in San Mateo County, and Waddell Creek in Santa Cruz County. Today, the San Francisco garter snake is restricted to San Mateo County and has been found in creeks in Half Moon Bay (H. T. Harvey & Associates 1999).

The San Francisco garter snake is a medium-sized snake that occurs in a number of aquatic and terrestrial habitats throughout their range. Juveniles and adults have been observed in natural lagoons, dune ponds, pools in or next to streams, streams, marshlands, sag ponds, and springs, as well as human-created stock ponds, canals, golf course ponds, irrigation ponds, sand and gravel pits (containing water), and large reservoirs (USFWS 1985). The presence of adjacent upland areas with abundant small mammal burrows is also important as hibernation sites for snakes during the winter (Larsen 1994). The most abundant populations of snakes are found in natural sag ponds or artificial waterways that have been allowed to develop a dense cover of vegetation such as willows, bulrushes, cattails, and tules and have dense populations of Pacific tree frogs (Barry 1993, 1994).

San Francisco garter snakes are most active from March to September although they can be observed during any month of the year (Barry 1994, Larsen 1994). Adults mate during the spring (March-April) and fall (September-November), with the latter breeding period characterized by reproductive aggregations of several males and one female. Neonates, which are normally 7-8 inches in total length, are usually born alive in litters of 1-35 (average 16) during late July to early August, although litters can be born as late as early September.

The San Francisco garter snake population in San Mateo County has been severely reduced throughout most of its range due to habitat loss and development; however, the Project region still supports an extant population of the species. San Francisco garter snakes have been documented within the region of the BSA as recently as 2008. Exact CNDDDB locations of San Francisco garter snakes are suppressed because of concern about illegal collection of the species. However, there are two CNDDDB records for the Half Moon Bay USGS quadrangle, both associated with Pilarcitos Creek, the closest one at approximately 0.5 mi downstream of the BSA in 2004 (CNDDDB 2021). Because the primary prey species of the snake is the California red-legged frog, an established population of California red-legged frogs in the perennial freshwater marsh would elevate the likelihood that

the snake could occur in the BSA. Nevertheless, it is difficult to estimate or determine the likelihood of the snake occurring in the BSA in the absence of detailed surveys or further confirmed observations nearby.

San Francisco garter snakes can move into upland habitats during summer to prey on amphibians aestivating in small mammal burrows (Barry 1993). They could potentially forage on amphibians in Pilarcitos Creek and the perennial freshwater marsh and disperse and/or aestivate throughout the BSA. The San Francisco garter snake is therefore considered potentially present throughout the BSA.

### 5.2.2 California Species of Special Concern

**Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern.** The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico (Bury and Germano 2008). The central California population was historically present in most drainages on the Pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the species' range (Stebbins 2003). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas up to 0.25 mi from aquatic habitat (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 ft of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by, adults may travel overland considerable distances to nest. Threats to the western pond turtle include impacts to nesting habitat from agricultural and grazing activities, human development of habitat, and increased predation pressure from native and nonnative predators as a result of human-induced landscape changes.

The reach of Pilarcitos Creek within and adjacent to the BSA is degraded due to surrounding development; however, suitable basking and foraging habitat for pond turtles is present in these areas. However, suitable nesting habitat for pond turtles is not present in the BSA in upland areas adjacent to Pilarcitos Creek, because the riparian habitat is too dense for nest construction and the adjacent upland grassland habitat is degraded and frequently disturbed due to the human usage of the area. In addition, the nearest CNDDB recorded observations are over 4 mi from the BSA in the area of the Crystal Springs Reservoir (CNDDB 2021). Thus, there is some potential for pond turtles to be present in the BSA, though they are likely present in low numbers and/or infrequently as dispersers but not as resident turtles prone to breeding and nesting in the upland habitats adjacent to the creek. The perennial freshwater marsh is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species.

**San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*). Federal Listing Status: None; State Listing Status: Species of Special Concern.** The San Francisco dusky-footed woodrat occurs in a variety of woodland and scrub habitats from the San Francisco Peninsula south to the Pajaro River in Monterey County (Hall 1981, Zeiner et al. 1990b). Woodrats prefer riparian and oak woodland forests with dense

understory cover, or thick chaparral habitat (Lee and Tietje 2005). Although woodrats are locally common in many areas, habitat conversion and increased urbanization, as well as increasing populations of introduced predators, such as domestic cats (*Felis catus*), pose substantial threats to this subspecies (H. T. Harvey & Associates 2008). Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years (Carraway and Verts 1991). Woodrats also are very adept at making use of human-made structures, and can nest in electrical boxes, pipes, wooden pallets, and even portable storage containers. Woodrat nest densities increase with canopy density and with the presence of poison oak (Carraway and Verts 1991). Although the San Francisco dusky-footed woodrat is described as a generalist omnivore, individuals may specialize on local plants that are available for forage (Haynie et al. 2007). The breeding season for the dusky-footed woodrat begins in February and sometimes continues through September, with females bearing a single brood of one to four young per year (Carraway and Verts 1991).

A San Francisco dusky-footed woodrat nest was observed near Pilarcitos Creek over 3 mi east-northeast of the BSA in 2007 (CNDDDB 2021). The riparian forest in the BSA provides suitable habitat for dusky-footed woodrats. Although no nests were observed in the riparian woodland habitat in the BSA during the reconnaissance survey, this species could potentially nest and forage in, and disperse through, the riparian habitat along Pilarcitos Creek and around the freshwater marsh.

**San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). Federal Listing Status: None; State Listing Status: Species of Special Concern.** The San Francisco common yellowthroat inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (*Scirpus* and *Juncus* spp.), cattails, willows, and other emergent vegetation (Nur et al. 1997, Gardali and Evens 2008). Ideal habitat, however, is composed of extensive, thick riparian, marsh, or herbaceous floodplain vegetation in perpetually moist areas, where few or no brown-headed cowbirds are present (Menges 1998). San Francisco common yellowthroats nest primarily in fresh and brackish marshes, although they will also nest in salt marsh habitats that support tall vegetation (Guzy and Ritchison 1999). This subspecies builds open-cup nests low in the vegetation, and nests from mid-March through late July (Guzy and Ritchison 1999, Gardali and Evens 2008).

The San Francisco common yellowthroat is one of approximately 12 subspecies of common yellowthroat recognized in North America, two of which occur in the region of the BSA: the California Species of Special Concern, *G. t. sinuosa*, and the widespread subspecies, *G. t. arizela*. Common yellowthroats nesting in the BSA are likely of the special-status *sinuosa* subspecies, but intergrades between the two subspecies may also occur in this area (SFBBO 2012). Because subspecies cannot be reliably distinguished in the field, determination of the presence of the San Francisco common yellowthroat can be achieved only by locating birds that are actively nesting within the breeding range known for the subspecies.

Nesting San Francisco common yellowthroats have been recorded in the vicinity of the BSA (Sequoia Audubon Society 2001), and observations of individuals have been recorded within the Pilarcitos Creek riparian habitat



less than a mile west of the BSA as recently as 2017 (Cornell Lab of Ornithology 2021). The species may nest in taller vegetation within the perennial freshwater marsh in the BSA, and possibly in riparian habitat along Pilarcitos Creek and around the marsh.

**Yellow Warbler (*Setophaga petechia*).** **Federal Listing Status: None; State Listing Status: Species of Special Concern.** In California, the yellow occupies wooded riparian habitats (Heath 2008). This species prefers riparian corridors with an overstory of mature cottonwoods and sycamores, a midstory of box elder and willow, and a substantial shrub understory (Bousman 2007), particularly in areas with more open space adjacent to the riparian habitat. Yellow warblers construct open-cup nests in upright forks of shrubs or trees in dense willow thickets or other dense vegetation (Lowther et al. 1999).

The yellow warbler is an uncommon to rare breeder in wooded riparian habitats, occurring primarily in association with alders and willows, in San Mateo County. Riparian woodlands in the County provide suitable nesting and foraging habitat for this species, but the species is scarce and local, being particularly scarce as a breeder on the immediate coast (Sequoia Audubon Society 2001). Nevertheless, it is possible that one or two pairs could potentially breed in riparian habitat in the BSA along Pilarcitos Creek and around the marsh. Otherwise, this species is expected to occur as a common migrant in the BSA during the spring and fall.

### 5.2.3 State Fully Protected Species

**White-tailed Kite (*Elanus leucurus*).** **Federal Listing Status: None; State Listing Status: Fully Protected.** In California, white-tailed kites can be found in the Central Valley and along the coast in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Zeiner et al. 1990a, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing nesting territories that encompass open areas with healthy prey populations and snags, shrubs, trees, or other substrates for nesting (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Although the species recovered after population declines during the early 20th century, its populations may be exhibiting new declines because of recent increases in habitat loss and disturbance (Dunk 1995, Erichsen et al. 1996).

White-tailed kites are common residents in the vicinity of the BSA where open grassland, ruderal, or agricultural habitats are present. Large trees on and adjacent to the BSA provide suitable nesting sites. The open habitats (e.g., ruderal grasslands and agricultural areas) on and adjacent to the BSA provide potential foraging opportunities for this species. Although the developed nature and high levels of human disturbance within the BSA make it less attractive to nesting kites, an individual was observed in the vicinity of the perennial freshwater marsh in 2014 (Cornell Lab of Ornithology 2021), and this species could potentially nest and forage in the BSA.

## 5.3 Sensitive Natural Communities, Habitats, and Vegetation Alliances

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. The CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities in its Rarefind database (CNDDDB 2021). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings reflect the condition of a habitat within California. Natural communities are defined using NatureServe's standard heritage program methodology as follows (CDFG 2007):

- G1/S1: Less than 6 viable occurrences or less than 2,000 ac.
- G2/S2: Between 6 and 20 occurrences or 2,000 to 10,000 ac.
- G3/S3: Between 21 and 100 occurrences or 10,000 to 50,000 ac.
- G4/S4: The community is apparently secure, but factors and threats exist to cause some concern.
- G5/S4: The community is demonstrably secure to ineradicable due to being common throughout the world (for global rank) or the state of California (for state rank).

State rankings are further described by the following threat code extensions:

- S1.1: Very threatened
- S1.2: Threatened
- S1.3: No current threats known

In addition to tracking sensitive natural communities, the CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (Sawyer et al. 2009). If an alliance is marked G1-G3, all the vegetation associations within it will also be of high priority (CDFG 2007). The CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFG 2010a).

Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, Appendix G of the California Code of Regulations). Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, USFWS, and/or the Half Moon Bay LCP.

**Sensitive Natural Communities.** There are no CDFW-classified sensitive natural communities within the BSA, However, there are two sensitive natural communities identified in the CNDDDB within five miles of the BSA:

- **Northern maritime chaparral.** Northern maritime chaparral is characterized by a dense, nearly impenetrable shrub cover composed of several species. Characteristic species include chamise (*Adenostoma fasciculatum*), buckbrush (*Ceanothus cuneatus*) as well as other *Ceanothus* species, black sage (*Salvia mellifera*), and several species of manzanitas (*Manzanita* sp.). Northern maritime chaparral is not present within the BSA because none of the characteristic plant species that make up this community are present.
- **Northern coastal salt marsh.** Northern coastal salt marsh is characterized is wetland community dominated by herbaceous to sub-shrub salt-tolerant hydrophytes that typically forms a dense mat of vegetation up to three feet high. Characteristic species include pickleweed (*Salicornia* sp.), cordgrass (*Spartina* sp.), and salt grass (*Distichlis spicata*). Northern coastal salt marsh is not present within the BSA because none of the characteristic plant species that make up this community are present.

**Sensitive Vegetation Alliances.** There is one CDFW classified sensitive vegetation alliances within the BSA. Impacts to these plant communities may be considered significant under CEQA. Sensitive plant communities identified by CDFW within the BSA include the red willow-arroyo willow vegetation alliance, which is found within the riparian woodland along Pilarcitos Creek (Figure 3). This plant community has been identified by CDFW as “G4 S3”, which means that it is rare and threatened throughout its range in California but is apparently secure throughout its range outside of California. This vegetation alliance occurs within the riparian woodland in the BSA.

**Waters of the U.S./State.** Pilarcitos Creek (aquatic riverine) and the perennial freshwater marsh would be considered waters of the U.S./state. Any impacts on verified waters of the U.S./state within the BSA would require a Section 404 permit from the USACE and Section 401 Water Quality Certification from the San Francisco RWQCB. Additionally, the RWQCB would also consider the riparian woodland above the OHWMs of the stream and surrounding the marsh, out to the dripline of all trees rooted within the top of bank, as important, regulated buffers to waters of the State (Figure 5). Also, Pilarcitos Creek and the full extent of its riparian canopy would be subject to lake and streambed jurisdiction administered by CDFW under Section 1600 et seq. of State Fish and Game Code (see Section 5.4).

**Environmentally Sensitive Habitat Areas.** The BSA contains several ESHAs or sensitive coastal resource areas:

- **Perennial freshwater stream.** Pilarcitos Creek is a perennial freshwater stream and is classified as a sensitive habitat by the Half Moon Bay LCP and is also subject to lake and streambed jurisdiction under Section 1600 et seq. of State Fish and Game Code (see Section 5.4).

- **Riparian woodland.** The riparian woodland along Pilarcitos Creek and surrounding the perennial freshwater marsh is classified as sensitive habitat by the Half Moon Bay LCP and the riparian canopy along Pilarcitos Creek is also subject to riparian jurisdiction under Section 1600 et seq. of State Fish and Game Code.
- **Perennial freshwater marsh.** The perennial freshwater marsh is classified as a sensitive wetland habitat by the Half Moon Bay LCP.
- **Potential one-parameter wetlands.** Throughout the California annual grassland habitat there are scattered patches of hydrophytic vegetation, including curly dock, poison hemlock, and bird’s foot trefoil. Both curly dock and bird’s foot trefoil are classified as *facultative* species (commonly occurs as either a hydrophyte or non-hydrophyte); poison hemlock is classified as a *facultative wetland* species (usually a hydrophyte but occasionally found in uplands) (Lichvar et al. 2016). CCC’s regulations (California Code of Regulations Title 14 (14 CCR)) establish a one parameter definition that only requires evidence of a single parameter (hydrology, hydric soils, or hydrophytic vegetation) to establish wetland conditions. However, these species grow in both wetlands as hydrophytes and uplands as non-hydrophytes; therefore, these species may not be reliable indicators of wetlands. A formal delineation and analysis was conducted in in June 2020 and determined that none of the areas of scattered hydrophytic vegetation occurred in wetland landscape positions, some areas clearly indicated disturbance rather than wetland conditions (e.g., poison hemlock), all occurred intermixed with upland species, and none of these areas indicated the presence of a hydrophytic vegetation community, hydric soils, or wetland hydrology (H. T. Harvey & Associates 2020). Therefore, no one-parameter CCC wetlands outside of the riverine, wetland, or riparian habitats above were identified within the BSA.
- **Wild strawberry habitat.** Wild strawberry habitat is also included as a sensitive habitat in the Zoning Code and Local Coastal Program and is defined as “any undeveloped areas within one half mile of the coast” (City of Half Moon Bay 2021). The BSA is approximately 1.2 mi from the coast and therefore does not meet the definition of wild strawberry habitat due to its distance from the coast. Additionally, no strawberry plants were observed during the reconnaissance-level field survey in June 2018.
- **Bluffs, cliffs, and sea cliffs.** As defined in Section 18.38.060 of the City Code, a bluff or cliff is a scarp or a steep face of rock, decomposed rock, sediment or soil resulting from erosion, faulting, or folding of the land mass with a vertical relief of ten feet or more. A sea cliff is defined as a cliff whose toe is subject to marine erosion. There is no bluff, cliff, or sea cliff habitat present within the BSA.

**Critical Habitat.** Pilarcitos Creek is designated as critical habitat for the federally Threatened Central California Coast steelhead Distinct Population Segment. Critical habitat for the Central California Coast steelhead DPS was designated on September 2, 2005 and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County. The San Mateo Hydrologic Unit includes the coastal streams in San Mateo County from San Pedro Creek near Pacifica to Butano Creek near Año Nuevo and the Santa Clara Hydrologic Unit includes South Bay creeks from San Francisquito Creek in Palo Alto eastward to Coyote Creek (NMFS 2005).

## 5.4 Non-Native and Invasive Species

Several non-native, invasive plant species occur in the BSA in the California annual grassland and riparian woodland habitat. Of these, pampas grass, cape ivy, French broom and Himalayan blackberry have the potential to cause the most severe ecological impacts, as these species can invade and degrade the margins of sensitive wetland habitat, and are rated high by the Cal-IPC (Cal-IPC 2021). In addition, creeping capeweed (*Arctotheca prostrata*), riggut brome, Italian thistle, poison hemlock, silverleaf cotoneaster (*Cotoneaster pannosus*), dogtail grass (*Cynosurus echinatus*), Italian rye grass, bristly ox-tongue, common velvetgrass, Mediterranean hoary mustard (*Hirschfeldia incana*), meadow barley (*Hordeum murinum*), common sheep sorrel (*Rumex acetosella*), and field hedge parsley (*Torilis arvensis*) were observed in the BSA, are rated as limited to moderate and can have substantial and apparent ecological impacts if they spread into native, sensitive habitats (Cal-IPC 2021).



## Section 6. Impacts and Mitigation Measures

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CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.”

Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G (Chapter IV) may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

- A. “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- B. “have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- C. “Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means”
- D. “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”
- E. “conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance”
- F. “conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan”

### 6.1 Approach to the Analysis

As described in Section 1.1, specific project activities and locations have not been defined. However, no disturbance of Pilarcitos Creek or the perennial freshwater marsh in the northwest corner of the BSA, or use of the riparian habitat or buffer associated with Pilarcitos Creek beyond existing allowed use under the City’s LCP, is anticipated. Allowed uses include 1) education and research, 2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, 3) fish and wildlife management activities, 4) trails and scenic overlooks on public land(s), and 5) necessary water supply projects. Also, when no feasible or practicable alternative exists, other uses may include 1) stream-dependent aquaculture provide

that non-stream-dependent facilities locate outside of corridor, 2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, 3) bridges when supports are not in significant conflict with corridor resources, 4) pipelines and storm water runoff facilities, 5) improvement, repair or maintenance of roadways or road crossings, and 6) agricultural uses, provided no existing riparian vegetation is removed, and no soil is allowed to enter stream channels.

The only allowed uses in riparian habitat and the associated buffer being considered by the City for this project will be path, trail, or other environmental related educational uses (J. Doughty, pers. comm.). Therefore, the following impact analysis was prepared assuming project development could occur in any portion of the BSA, except for Pilarcitos Creek and the perennial freshwater marsh in the northwest corner of the BSA, but with possible limited disturbance within the riparian habitat/buffers associated with the perennial freshwater marsh and/or Pilarcitos Creek from allowed uses.

## **6.2 Impacts on Special-Status Species: 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 CDFW or USFWS**

### **6.2.1 Impacts on Common Plant and Animal Species (Less than Significant)**

The common (non-special-status) plant and animal species that occur in the BSA could experience a direct loss of habitat due to project activities, which could potentially result in the mortality, injury, disturbance, and displacement of individuals of some of these species. The plant species observed in the BSA during the reconnaissance surveys (Appendix A) are not regulated under state or federal laws or listed species by the CNPS. All native plant species found in the BSA are regionally abundant and common in California. As such, impacts on these species from project activities do not constitute a significant impact and require no compensatory mitigation.

The common animal species that occur in the BSA are regionally abundant, and can be found in habitats throughout the City of Half Moon Bay and San Mateo County. For instance, the common ants, bees, wasps, flies, butterflies, and spiders in the BSA are found in abundance in vegetated areas in the region such as yards, parks, riparian areas, and grasslands. Non-special-status amphibians, such as western toads and arboreal salamanders, are found along streams, ponds, and lakes in the region, and the common reptiles that occur in the BSA, such as western fence lizards and western skinks, are abundant in the grasslands of San Mateo County.

Implementation of the project would result in the loss of a small amount of nesting and foraging habitat for common native birds, which would result in a decline in the number of species and pairs of birds that currently nest and/or forage in the BSA. However, the terrestrial habitats in the BSA (i.e., California annual grassland,

developed, ephemeral drainage, perennial freshwater marsh, and riparian forest) represent a very small proportion of the habitats that support these species regionally. For instance, residences, yards, and parks throughout the City of Half Moon Bay provide habitat for the common “backyard” species of birds that occur in the BSA (e.g., American robin) and riparian-associated birds (e.g., bushtits and lesser goldfinch) inhabit riparian habitat adjacent to the numerous streams flowing through the county. Thus, the habitats in the BSA represent only a very small proportion of suitable habitats available to these species regionally. Even more importantly, because the project would retain all trees associated with Pilarcitos Creek, birds are expected to continue to nest and forage there once project construction is completed. Although overall fewer pairs of birds might nest and forage in the BSA following project development, the temporary disturbance of habitat does not rise to the level of a *substantial* impact under CEQA for any of these species.

All of the native terrestrial mammals in the BSA (e.g., striped skunks and raccoons) are also abundant in the county, inhabiting grasslands and woodlands throughout the region. Because these species are regionally abundant, are present in widely available habitats in the region, and may continue to be present in the BSA following construction, any project would impact only a small proportion of their regional populations. Such loss of regionally abundant common wildlife species does not achieve the threshold of a *substantial* reduction in the regional habitat of these species, and thus these impacts are less than significant under CEQA.

Several of the common wildlife species that occur in the BSA are not native to California. These include non-native mammals such as the Virginia opossum, Norway rat, and house mouse. Many of these non-native species have been introduced to the natural areas in the region, or have invaded natural and developed areas because they thrive in the presence of humans. These non-native species influence natural ecosystems in many ways, such as by competing with native species for food, territories, and other resources; altering habitats; transmitting diseases; and preying upon native species. Due to these factors, these non-native species act to reduce the abundance and diversity of native species that occur in areas in the region, including the BSA. Therefore, impacts on these non-native species resulting from a project do not constitute an adverse effect under CEQA.

### **6.2.2 Impacts on Special-Status Plants (Less than Significant with Mitigation)**

One plant species, harlequin lotus, categorized by the CNPS as a CRPR 4.2, has the potential to occur within the more mesic areas of the riparian habitat along Pilarcitos Creek (Figure 5, Section 5.1, Appendix B). If present, project development may affect harlequin lotus due to disturbance of individuals within the populations and disturbance or destruction of suitable habitat. Direct impacts could include grading or filling areas supporting these species, trampling or crushing of plants, and soil compaction. Indirect impacts could include increased mobilization of dust onto plants, which can affect their photosynthesis and respiration, or changes to hydrology supporting these plants within adjacent wetlands due to grading or construction in nearby habitats.

Harlequin lotus has a limited distribution in California. The statewide population includes at least 357 extant occurrences (CNPS 2021), and of these, approximately 37 occur within San Mateo County. Given that San Mateo County is at the southern limits of its documented range and Harlequin lotus is threatened by

development, grazing, feral pigs, habitat alteration, and competition from non-native species, conservation of existing populations of this species could be essential for preserving its genetic resources and ensuring its persistence in the County.

If this species is present and impacts occur to 10% or less of its population (by individuals or occupied area) within the BSA, such a low level of impacts would not be expected to cause the extirpation of such a population, as long as the remaining plants were avoided and protected by a no-disturbance buffer. However, due to the regional rarity of this species, impacts to more than 10% of a population of this species could contribute to a reduction in these species' range or genetic resources, which would be considered significant under CEQA. Implementation of the following mitigation measures will reduce impacts on harlequin lotus to a less-than-significant level.

**Mitigation Measure 1. Pre-Activity Surveys for Harlequin Lotus.** Prior to initial ground disturbance within any riparian habitat related to the project, and during the appropriate blooming period (March-July), a focused survey for harlequin lotus will be conducted within suitable habitat in the impact footprint and a 50-ft buffer around the impact footprint. This buffer may be increased by the qualified plant ecologist depending on site-specific conditions and activities planned in the area (i.e., if the plant ecologist determines that project activities could have greater indirect impacts), but must be at least 50 ft wide. Situations for which a greater buffer may be required include proximity to proposed activities expected to generate large volumes of dust, such as grading; potential for project activities to alter hydrology supporting the habitat for the species in question; or proximity to proposed structures that may shade areas farther than 50 ft away. Surveys are to be conducted in a year with near-average or above-average precipitation, or a reference population must be assessed to confirm that the plant would have been detectable during the survey year. The purpose of the survey will be to assess the presence or absence of the harlequin lotus. If this species is not found in the impact area or the identified buffer, then no further mitigation will be warranted. If harlequin lotus is found in the impact area or identified buffer, then Mitigation Measures 2 and 3 will be implemented.

**Mitigation Measure 2. Avoidance Buffers.** To the extent feasible, and in consultation with a qualified plant ecologist, the project proponent will design and construct the project to avoid completely impacts on harlequin lotus within the project site or within the identified buffer of the impact area. Avoided special-harlequin lotus plant populations will be protected by establishing and observing the identified buffer between plant populations and the impact area. All such populations located in the impact area or the identified buffer, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around harlequin lotus to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities.

If complete avoidance is not feasible and more than 10% of a population (by occupied area or individuals) would be impacted as determined by a qualified plant ecologist, Mitigation Measure 3 will be implemented.

**Mitigation Measure 3. Preserve Off-Site Populations of Special-Status Plant Species.** If avoidance of harlequin lotus is not feasible and more than 10% of the population would be impacted, compensatory mitigation will be provided via the preservation, enhancement, and management of occupied habitat for the species, for example avoided portions of the impacted population. If too large of a proportion of an on-site population is impacted to provide this mitigation on-site, off-site habitat occupied by the affected species will be preserved and managed in perpetuity at a minimum 1:1 mitigation ratio (at least one plant preserved for each plant affected, and at least one occupied acre preserved for each occupied acre affected), for any impact over the 10% significance threshold.

Areas proposed to be preserved as compensatory mitigation for special-status plant impacts must contain verified extant populations of harlequin lotus that would be impacted. Mitigation areas will be managed in perpetuity to encourage persistence and even expansion of the preserved target species. Mitigation lands cannot be located on land that is currently held publicly for resource protection unless substantial enhancement of habitat quality will be achieved by the mitigation activities. The mitigation habitat will be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified plant ecologist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and will contain at least as many individuals of the species as are impacted by project activities. The permanent protection and management of mitigation lands will be ensured through an appropriate mechanism, such as a conservation easement or fee title purchase. A habitat mitigation and monitoring plan (HMMP) will be developed and implemented for the mitigation lands. That plan will include, at a minimum, the following information:

- a summary of habitat impacts and the proposed mitigation;
- a description of the location and boundaries of the mitigation site and description of existing site conditions;
- a description of measures to be undertaken to enhance (e.g., through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat) the mitigation site for the focal special-status species;
- a description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist);
- proposed management activities to maintain high-quality habitat conditions for the focal species;
- a description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. At a minimum, performance criteria will include demonstration that any plant population fluctuations over the monitoring period do not indicate a downward trajectory in terms of reduction in numbers and/or occupied area for the preserved mitigation population that can be attributed to management (i.e., that are not the result of local weather patterns, as determined by monitoring of a nearby reference population, or other factors unrelated to management); and



- contingency measures for mitigation elements that do not meet performance criteria.

The HMMP will be prepared by a qualified plant or restoration ecologist. Approval of the HMMP by the City will be required before the project impact occurs.

### **6.2.3 Impacts on the California Red-legged Frog and San Francisco Garter Snake (Less than Significant with Mitigation)**

Individuals of the California red-legged frog are known to have occurred in Pilarcitos Creek, and in the perennial freshwater marsh in the BSA. Also, San Francisco garter snake is considered potentially present in Pilarcitos Creek, and may disperse to the perennial fresh water marsh in the BSA to forage due to the presence of California red-legged frog in the marsh. Therefore, impacts on these species are considered similar and thus will be discussed together. Direct impacts on the California red-legged frog and San Francisco garter snake could potentially occur due to project development immediately adjacent to the marsh habitat or within the riparian habitat associated with Pilarcitos Creek. If individuals of these species are present during construction activities, they may be crushed or injured by personnel or equipment. In addition, individuals may be crushed in their refugia by the passage of heavy equipment or trapped and suffocated. An increase in native and non-native predators attracted to the Project site due to trash left on the work site might result in increased mortality of individuals of these species. Due to the rarity of both species, project-related impacts on individual California red-legged frogs and San Francisco garter snakes would be significant.

The project may also result in the permanent loss or temporary disturbance of the riparian habitat associated with Pilarcitos Creek and buffers along the creek and around the marsh because of development activities. The marsh potentially provides breeding habitat for the California red-legged frog and foraging habitat for the San Francisco garter snake, and the riparian habitat provides foraging habitat for both species. Due to the potential presence of breeding and foraging habitat in the perennial freshwater marsh, and foraging habitat in the riparian habitat at the marsh and Pilarcitos Creek, the remaining annual grassland habitat is considered upland dispersal habitat for both the frog and snake. Project development of this annual grassland would permanently impact this upland dispersal habitat for both the frog and snake and could isolate a breeding population of California red-legged frog currently in the perennial freshwater marsh habitat from other nearby habitat for the species, such as Pilarcitos Creek. Therefore, the effects of even temporary habitat loss could substantially affect regional populations of these species, a significant impact. Implementation of Mitigation Measures 4 through 23 will reduce project impacts on both the California red-legged frog and San Francisco garter snake due to habitat loss and impacts on individuals to a less-than-significant level. In addition, implementation of these mitigation measures will ensure that take of individuals (e.g., handling, injury, or mortality) of the state fully protected San Francisco garter snake, which is prohibited by the California Fish and Game Code for construction projects such as this, will be avoided.

#### **Mitigation Measure 4. Avoidance of California Red-legged Frog and San Francisco Garter Snake Foraging Habitat, and California Red-legged Frog and San Francisco Garter Snake Dispersal Habitat.**

To the extent feasible, the project proponent will design and construct the project to avoid completely impacts

on the marsh, riparian, and annual grassland habitats in the BSA. The avoided California red-legged frog and San Francisco garter snake habitat will be protected by establishing and observing an identified buffer between the habitat and the impact area following the LCP (City of Half Moon Bay 2020). Specifically, the buffer will be fifty ft outward from the limit of riparian vegetation along Pilarcitos Creek and the marsh. The identified buffer will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the marsh, associated riparian habitat, and annual grassland to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities.

If complete avoidance is not feasible, Mitigation Measure 5 will be implemented.

**Mitigation Measure 5. Preserve Onsite and/or Offsite Breeding, Foraging, and Dispersal Habitat for California Red-legged Frog and San Francisco Garter Snake.** If avoidance of the marsh, riparian, and/or annual grassland habitats and associated buffers in the BSA are not feasible, compensatory mitigation will be provided via the preservation, enhancement, and management of potential California red-legged frog breeding and foraging habitat and San Francisco garter snake foraging habitat (for impacting the marsh and riparian habitats) and upland dispersal habitat (for impacting the upland grassland habitat). To compensate for impacts on the California red-legged frog and San Francisco garter snake, onsite and/or offsite habitat occupied by the frog and snake will be preserved and managed in perpetuity at a minimum 3:1 mitigation ratio for California red-legged frog breeding and foraging habitat and San Francisco garter snake foraging habitat (i.e., marsh and riparian habitats), and 1:1 mitigation ratio for upland dispersal habitat (annual grassland habitat and buffers associated with riparian habitat) for both species.

If the marsh habitat and associated riparian habitat are avoided, but the upland grassland between Pilarcitos Creek and the marsh is impacted to the extent that the marsh habitat and riparian habitat surrounding the marsh becomes isolated from Pilarcitos Creek, and frogs and snakes cannot disperse unencumbered between the creek and marsh, then a minimum 3:1 mitigation ratio for the acreage of the entire isolated marsh and riparian habitat around the marsh will be provided to compensate for loss of breeding and foraging habitat for California red-legged frog and foraging habitat for San Francisco garter snake. This higher mitigation ratio is required because the marsh and associated riparian habitat will be cut off from, and not available as breeding and foraging habitat for, the larger meta-populations of the California red-legged frog and San Francisco garter snake in the region that are using Pilarcitos Creek as a dispersal corridor. If, however, a designated portion of the upland habitat between Pilarcitos Creek and the marsh at a minimum of 50 ft in width is avoided, or if impacted, landscaped so that frogs and snakes can still freely disperse between the creek and marsh, then no mitigation ratio is required for the marsh habitat and associated riparian habitat since they will not be isolated. A minimum 1:1 mitigation ratio for upland dispersal habitat will still be required as compensation for the annual grassland within the BSA to be impacted.

**Mitigation Measure 6. Obtain Agency Approval of Qualified Biologist.** The qualifications of a biologist(s) experienced with the California red-legged frog and San Francisco garter snake, and who will provide

preconstruction surveys and monitoring for the project during construction, will be submitted to the USFWS and CDFW for review and written approval at least thirty (30) calendar days prior to the start of project activities.

**Mitigation Measure 7. Install Wildlife Exclusion Barrier.** A temporary wildlife exclusion barrier installation plan will be submitted to the USFWS and CDFW for approval. Prior to any ground disturbance in the impact area, the agency-approved temporary wildlife exclusion barrier will be installed along the limits of disturbance. An agency-approved biologist will inspect the area prior to installation of the barrier. The barrier will be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area, and will remain in place until all development activities have been completed. This barrier will be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.

**Mitigation Measure 8. Conduct Preconstruction Survey.** No more than twenty-four (24) hours prior to the date of initial ground disturbance, a preconstruction survey for the California red-legged frog and San Francisco garter snake will be conducted by an agency-approved biologist within the impact area. The survey will consist of walking the limits of impact to ascertain the possible presence of the species. The agency-approved biologist will investigate all potential areas that could be used by the California red-legged frog and San Francisco garter snake for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows.

**Mitigation Measure 9. Worker Environmental Awareness Program.** All construction personnel will participate in a worker environmental awareness program. These personnel will be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the BSA and that unlawful take of the animal or destruction of its habitat is a violation of FESA and CESA. Prior to construction activities, the agency-approved biologist will instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information will be prepared for distribution to the construction crew and anyone else who enters the project site.

**Mitigation Measure 10. Construction Monitoring.** An agency-approved biologist will be onsite during all Project construction activities that may result in take of any special-status species. The agency-approved biologist will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The agency-approved biologist will have oversight over implementation of all the conservation measures and will have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the agency-

approved biologist exercises this authority, the USFWS and CDFW will be notified by telephone and electronic mail within twenty-four (24) hours.

**Mitigation Measure 11. Vegetation Removal.** All riparian vegetation that needs to be removed will be removed under the close supervision of an agency-approved biologist, who will survey for California red-legged frogs or San Francisco garter snakes immediately prior to and periodically during the vegetation removal.

**Mitigation Measure 12. Prohibition of Firearms and Pets.** No firearms will be allowed on the project site, except for Federal, state, local law enforcement, or security guards. No pets will be allowed on the project site.

**Mitigation Measure 13. Pipe Inspection.** All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the agency-approved biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the agency-approved biologist or construction foreman/manager, the protocol in Mitigation Measure 15 will be followed.

**Mitigation Measure 14. Steep-walled Holes and Trenches.** To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the agency-approved biologist and/or construction foreman/manager will ensure that all excavated, steep-walled holes or trenches more than one foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the agency-approved biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the agency-approved biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the agency-approved biologist or anyone else, the steps in Mitigation Measure 15 will be followed.

**Mitigation Measure 15. Protocol if California Red-legged Frog or San Francisco Garter Snake is Encountered.** If a California red-legged frog or San Francisco garter snake, or any animal that construction personnel believes may be either of these species, is encountered during project construction, the following will be followed:

- All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease.
- The foreman and agency-approved biologist will be immediately notified.
- The agency-approved biologist will determine if the animal is a California red-legged frog or San Francisco garter snake and if so will follow Mitigation Measure 16 for California red-legged frog or Mitigation Measure 17 for San Francisco garter snake.

**Mitigation Measure 16. Relocation of California Red-legged Frogs.** If any California red-legged frogs are found during implementation of Mitigation Measures 7, 8, 10-11, or 13-14 the agency-approved biologist will contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the project proponent will ensure the agency-approved biologist is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only agency-approved biologists will capture, handle, and move the California red-legged frog. The agency-approved biologist will monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

**Mitigation Measure 17. Monitor San Francisco Garter Snake.** The agency-approved biologist will monitor any individual of the San Francisco garter snake encountered within the impact area but allow it to leave the impact area on its own. If the agency-approved biologist determines that the snake cannot leave on its own then the USFWS and CDFW will be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes will be handled without explicit agency approval.

**Mitigation Measure 18. Speed Limit.** Project-related vehicles will observe a 15 mile-per-hour speed limit in all project areas, except on City and County roads, and State highways; this is particularly important on rainy nights when California red-legged frogs are most active.

**Mitigation Measure 19. Daytime Restriction.** Nighttime construction will be avoided.

**Mitigation Measure 20. Food and Trash.** To eliminate an attraction for the predators of the California red-legged frog and San Francisco garter snake, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site.

**Mitigation Measure 21. Prohibition of Plastic Mono-filament Netting.** Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material will not be used at the project site to prevent trapping California red-legged frogs, San Francisco garter snakes, or other species.

**Mitigation Measure 22. Pesticide, Rodenticide, Herbicide Use.** The use of pesticides, rodenticides, and herbicides in the impact area will be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the BSA, and the depletion of food items on which they depend. All uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection agency, California Department of Food and Agriculture, and other appropriate State and Federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW.



#### **6.2.4 Impacts on the Central California Coast Steelhead and the Western Pond Turtle (Less than Significant with Mitigation)**

Both Central California Coast steelhead and western pond turtles may be present in Pilarcitos Creek within or downstream of the BSA. Because the project will not occur within Pilarcitos Creek in the BSA, direct impacts of construction-related activities on these species' habitat will not occur, and impacts on individuals are not expected except that during construction, minor and temporary increases in turbidity may occur. In addition, steelhead and western pond turtles might be killed or injured as a result of the spill of petrochemicals, hydraulic fluids, or solvents into Pilarcitos Creek. However, implementation of a storm water pollution prevention plan (SWPPP) with associated BMPs (see section 6.5.1) will minimize potential impacts on steelhead and western pond turtles as a result of increased turbidity and spills of hazardous materials into Pilarcitos Creek. In addition, western pond turtles may disperse from Pilarcitos Creek to the upland in the project site and be injured or killed by project related construction activities. However, implementation of Mitigation Measures 7-10 and 12-22 described above, for western pond turtles in addition to California red-legged frogs and San Francisco garter snakes, will reduce potential impacts on western pond turtles to less-than-significant levels.

#### **6.2.5 Impacts on the San Francisco Dusky-footed Woodrat (Less than Significant with Mitigation)**

San Francisco dusky-footed woodrats may be present, and could potentially nest, in the riparian habitat associated with Pilarcitos Creek and the perennial freshwater marsh in the BSA. Although impacts on riparian habitat are expected to be limited, if they occur at all, it is possible that limited impacts could occur to riparian habitat and the riparian buffer associated with Pilarcitos Creek allowed under the City's Local Coastal Program, notably the creation of paths, trails, or other environmentally related educational uses (J. Doughty, pers. comm.). If so, such impacts could result in destruction of nests, injury or mortality of woodrats (especially if occupied nests are present), and loss of woodrat habitat. Due to the regional abundance of woodrat habitat and the limited nature of impacts to this species' habitat anticipated to result from the project, impacts to this species' habitat is less than significant. Although San Francisco dusky-footed woodrats are also fairly abundant regionally, this species is important ecologically; woodrats serve as prey for a variety of predatory species, and woodrat nests provide dens and refugia for a variety of invertebrate, reptile, amphibian, and small mammal species. Therefore, impacts to individual woodrats and their nests would be significant. Implementation of Mitigation Measure 24 will reduce impacts on San Francisco dusky-footed woodrats to less-than-significant levels.

#### **Mitigation Measure 23. Preconstruction Survey for San Francisco Dusky Footed Woodrat Nests.**

Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat will be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation will be warranted. If nests are found, then Mitigation Measures 24 and 25 will be implemented.

**Mitigation Measure 24. Disturbance-Free Buffers.** Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-ft buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat will be avoided by the project, high-visibility fencing will be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.

**Mitigation Measure 25. Relocation of Nest Materials.** If avoidance of occupied nests is not feasible, the woodrats will be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist will disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks will be relocated; these materials will be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests will not be less than 20 ft, unless a qualified biologist has determined that the habitat can support higher densities of nests.

#### **6.2.6 Impacts on Nonbreeding Special-Status Animals (Less than Significant)**

The monarch butterfly, American peregrine falcon, pallid bat, Townsend's big-eared bat, northern harrier, and mountain lion may occur in the BSA as occasional foragers, visitors, migrants, or transients, but are not expected to breed (or roost, in the case of the two bat species) in the BSA due to a lack of suitable habitat, or to occur in the BSA frequently or in large numbers. Project construction would permanently alter the extent of foraging and dispersal habitat for these species in the BSA. However, the loss or conversion of this habitat would affect only a very small proportion of regionally available habitat for these species and would not adversely affect local or regional populations of these species. This loss of potential foraging or dispersal habitat would not rise to the CEQA standard of having a *substantial* adverse effect, and this impact would not constitute a significant impact on these species or their habitat under CEQA. Individuals of these species could potentially be disturbed if present in or adjacent to the project site during construction, but no injury or mortality of these species will occur, and disturbance of foraging or dispersing individuals of these species would be a less-than-significant impact.

#### **6.2.7 Impacts on the San Francisco Common Yellowthroat, Yellow Warbler, and Raptors, Including the White-tailed Kite (Less than Significant)**

The San Francisco common yellowthroat, yellow warbler, and white-tailed kite, all of which are considered special-status species, may nest and forage in the BSA. In addition, other raptors, such as the red-tailed hawk, red-shouldered hawk, and Cooper's hawk, could potentially nest on the project site and are identified as Unique Species in the Half Moon Bay Zoning Code. These species are assessed together because the impacts of the project on these species would be similar.

Heavy ground disturbance, noise, and vibrations caused by project development in the BSA could disturb nesting, foraging, or roosting individuals of these species, causing them to move away from impact areas. Although adult birds are not expected to be killed or injured, as they could easily fly from the impact area prior to such effects occurring, eggs or young in nests could be lost. In addition, construction disturbance during the nesting season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests.

Based on the extent of suitable habitat within the BSA and typical territory sizes of these species, no more than one or two pairs of raptors (considering all four aforementioned raptor species together) and one to three pairs of the San Francisco common yellowthroat and yellow warbler are expected to nest in the BSA. Therefore, the loss of suitable habitat and the potential loss of active nests potentially resulting from project activities would represent a very small fraction of the regional habitat and populations of these species and would not rise to the CEQA standard of having a *substantial* adverse effect. This type of impact would not be significant under CEQA for the species that could potentially nest in the project site due to the local and regional abundances of these species and/or the low magnitude of the potential impact of the project on these species (i.e., the project is only expected to impact one or two individual pairs of these species, which is not a significant impact to their regional populations). However, all native bird species, including San Francisco common yellowthroats, yellow warblers, and white-tailed kites, are protected from direct take by the MBTA and California Fish and Game Code. In addition, biological resources policies in the updated LCP include Policy 6-64, as follows:

**Active Nest Monitoring.** Ensure construction and tree removal during nesting seasons (generally from February 1 to August 15) complies with the Migratory Bird Treaty Act, California Fish and Game Code, and other applicable regulations by surveying the project vicinity for active nests, avoiding disturbance if active nests are found by employing exclusion buffers or other methods recommended by a qualified biologist, and monitoring active nests until all young have fledged.

As a result, we recommend the following measures to avoid impacts to nesting birds and to comply with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.

**Recommended Measure A. Avoidance.** To the extent feasible, construction activities will be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Mateo County extends from February 1 through August 15.

**Recommended Measure B. Preconstruction Surveys and Nest Buffers.** If it is not possible to schedule construction activities between August 16 and January 31, then preconstruction surveys for nesting birds will be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. These surveys will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g.,

shrubs, California annual grasslands, and buildings) in and immediately adjacent to the impact area for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 ft for raptors and 100 ft for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation.

**Recommended Measure C. Inhibition of Nesting.** If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation, and prevent the potential delay of the project due to the presence of active nests in these substrates.

### **6.3 Impacts on Sensitive Communities: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS**

#### **6.3.1 Impacts on Riparian Habitat or Other Sensitive Natural Communities (Less than Significant with Mitigation)**

Within the BSA, riparian woodland habitat is present along the banks of Pilarcitos Creek and forms a dense, wide thicket that extends up to 200 ft from the banks into the BSA. Also, riparian woodland habitat is present along the banks of the perennial freshwater marsh. The City's Zoning Code and Local Coastal Program includes riparian area and corridors as sensitive habitats. The City of Half Moon Bay Zoning Code defines the Riparian Buffer Zone as being 50 ft from the edge of the riparian canopy or 100 ft from top of bank, whichever is greater (shown on Figure 5). Additionally, all ecological systems associated with drainages (i.e., riparian habitat) and drainage and pond features with bed and bank topography may be regulated by Sections 1600-1616 of the California Fish and Game Code; therefore, the riparian habitat along Pilarcitos Creek and the perennial freshwater marsh may require an LSAA from the CDFW prior to project activities. Also, the riparian habitat along Pilarcitos Creek includes the red willow-arroyo willow vegetation alliance, which is classified as a sensitive vegetation alliance by CDFW. Project impacts to this habitat type could include riparian tree removal, direct loss of habitat around the perennial freshwater marsh, and compaction or understory removal to construct trails or other recreational or educational facilities within the Pilarcitos Creek corridor. Due to the ecological value of riparian habitats, such impacts would be significant.

Indirect impacts to these habitats will be minimized and avoided through compliance with the project SWPPP and MRP, as well as observance of the 50-foot riparian buffer zone. If project activities occur within the Riparian Buffer Zone or in riparian habitat, as allowed by the Half Moon Bay LCP, the project will mitigate impacts to riparian habitat and sensitive natural communities by implementing the following mitigation measures:

**Mitigation Measure 26. Avoidance of Riparian Habitat.** All riparian habitat and the 50-foot riparian buffer area to be avoided will be shown on project design plansets, and prior to project activities, these areas will be protected with high-visibility fencing. If a trail or similar facility will be installed within the riparian corridor of Pilarcitos Creek, trees to be avoided will be clearly marked for retention. The project will also comply with the MRP and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which will prevent stream downcutting, riparian bank erosion, or other downstream impacts. If riparian vegetation is impacted, then Mitigation Measure 27 and/or 28 will be implemented.

**Mitigation Measure 27. Pruning of Riparian Trees.** If project activities require pruning of riparian trees or shrubs, a certified arborist will be retained to perform any necessary pruning to minimize harm to vegetation, avoid injury leading to tree death for trees intended to be retained, and ensure rapid regeneration. Pruning will be limited to the minimum area necessary.

**Mitigation Measure 28. Riparian Habitat Compensatory Mitigation.** If project activities require removal of riparian habitat, the project shall compensate for permanent loss of riparian habitat via preservation, enhancement, and management. Because all riparian habitat within the BSA provides foraging and dispersal habitat for California red-legged frog and San Francisco garter snake, mitigation ratios for impacts will be 3:1 for San Francisco garter snake foraging habitat, and 1:1 for dispersal habitat for both species (see Section 3.2, Mitigation Measure 5). Mitigation can include onsite and/or offsite habitat occupied by the frog and snake, and will be preserved and managed in perpetuity (e.g. for loss of riparian habitat surrounding the marsh, the riparian corridor along Pilarcitos Creek could have cape ivy removed and be restored with native vegetation, which will enhance habitat quality for special-status species).

Placement of new development within the Riparian Buffer Zone will be offset at a ratio of 1:1 through the installation of native riparian plantings within the unaffected portions of the buffer. Tree plantings will be native trees, such as arroyo willow, black cottonwood (*Populus trichocarpa*), or box elder (*Acer negundo*). Buffer plantings will be monitored for 5 years and the criteria for success will be 70% survival and no more than 5% cover of Cal-IPC rated moderate and high impact weed species (excluding common annual grasses).

Temporary impacts to riparian habitat shall be restored in place at a 1:1 ratio through re-establishment of original contours along banks, decompaction of compacted soils where necessary, and seeding with a native seed mix and native tree plantings, developed by a qualified restoration ecologist. The native seed mix will contain grass and forb species that occur in the project vicinity. Tree plantings will be native trees, such as arroyo willow, black cottonwood, or box elder. Temporary impact areas will be monitored for 2 years and the criteria for success will be 75% vegetation cover or more compared to pre-project conditions and no more than 5% cover of Cal-IPC-rated moderate and high impact weed species (excluding Cal-IPC-rated annual grasses). Any planting for impacts as described above will require the development of a Riparian Restoration Plan (RRP). The RRP will clearly enumerate project related impacts to the Riparian buffer and riparian woodland, and will be implemented for the mitigation lands. That plan will include, at a minimum, the following information:



- a summary of habitat impacts and the proposed mitigation;
- a description of the location and boundaries of the mitigation site and description of existing site conditions;
- a description of measures to be undertaken to enhance (e.g., through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat) the mitigation site for the focal special-status species;
- a description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist);
- proposed management activities to maintain high-quality habitat conditions for the focal species;
- a description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. At a minimum, performance criteria will include the survival requirements and restrictions on Cal-IPC rated weed infestations described above; and
- contingency measures for mitigation elements that do not meet performance criteria.

The RRP will be prepared by a qualified plant or restoration ecologist. Approval of the RRP by the City will be required before the project impact occurs.

### **6.3.2 Impacts Caused by Non-Native and Invasive Species (Less than Significant with Mitigation)**

Several non-native, invasive plant species occur in the grassland and riparian habitats located throughout the BSA. Invasive species can spread quickly and can be difficult to eradicate. Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are transported by personnel, vehicles, and other equipment. Activities such as trampling, equipment staging, and vegetation removal are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of non-native species, which could degrade the ecological values of riparian habitat and adversely affect native plants and wildlife that occur there. Invasive species can have an adverse effect on native species and habitats in several ways, including by altering nutrient cycles, fire frequency and/or intensity, and hydrologic cycles; by creating changes in sediment deposition and erosion; by dominating habitats and displacing native species; by hybridizing with native species; and by promoting non-native animal species (Bossard et al. 2000).

Invasive species, such as French broom, Himalayan blackberry, cape ivy, and poison hemlock are already present within and adjacent to riparian habitats. However, project activities near existing riparian habitat could cause them to spread further into previously unoccupied areas within the riparian and grassland habitats.

Therefore, this impact is considered significant. Implementation of the following mitigation measure will reduce potential weed-related impacts on sensitive habitats and the species they support to a less-than-significant level.

**Mitigation Measure 29. Invasive Species Best Management Practices (BMPs).** The following BMPs will be implemented to limit the spread of invasive species into sensitive habitats:

- All ground disturbing equipment used adjacent to the riparian habitat will be washed (including wheels, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site.
- All applicable construction materials used on site, such as straw wattles, mulch, and fill material, will be certified weed free.
- The project will follow a Stormwater Pollution Prevention Plan as per the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable.
- All disturbed soils will be stabilized and planted with a native seed mix from a local source following construction.
- If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) will not be used in general soil stockpiles and will not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil will be disposed of off-site at a landfill or buried at least 2.5 ft below final grade.

## **6.4 Impacts on Wetlands: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means**

### **6.4.1 Impacts on Wetlands and Waters (Less than Significant with Mitigation)**

Both Pilarcitos Creek and the perennial freshwater marsh present in the BSA may be subject to the regulatory jurisdiction of the USACE, RWQCB, and CDFW and may require CWA 401/404 permits and a LSAA from the CDFW prior to project activities. Additionally, the Zoning Code and Local Coastal Program includes wetlands as sensitive habitats. The City of Half Moon Bay Zoning Code defines the Wetland Buffer Zone as “one hundred feet, measured from the high water point, except that no buffer is required for man-made ponds and reservoirs used for agriculture”.

Wetlands are relatively scarce regionally, and even small wetland areas make disproportionate contributions to water quality, groundwater recharge, watershed function, and wildlife habitat in the region. Thus, any permanent loss or temporary disturbance of wetland habitat because of the project would be considered significant under CEQA.

Project development also has the potential to cause indirect impacts on jurisdictional waters to changes in water quality. However, construction projects in California causing land disturbances that are equal to 1 ac or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A SWPPP must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

A list of example BMPs include:

- Work areas that are temporarily impacted will be restored with respect to pre-existing contours and conditions, to the extent feasible, upon completion of work. Restoration work including re-vegetation and soil stabilization will be evaluated upon completion of work and performed, as needed.
- 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, wash water or sediment and non-stormwater discharges to storm drains and water courses.
- Avoid cleaning, fueling, or maintaining vehicles on site, except in a designated area in which run-off is contained and treated.
- Perform clearing and earth moving activities during dry weather to the maximum extent practical.
- Remove spoils promptly and avoid stockpiling of fill materials when rain is forecast. Cover soil stockpiles and other materials with a tarp or other waterproof material during qualifying rain events.
- Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination and dispersal by wind.
- In the event of rain, all grading work is to cease immediately.
- Implement an erosion control plan during the wet season (October 15 through April 15), including, at a minimum, the following:
  - During the rainy season, all paved areas will be kept clear of earth material and debris.
  - Inlet protection will be installed at open inlets to prevent sediment from entering the storm drain system.
  - Straw rolls will be placed at the toe of slopes, and along the down slope perimeter of the project area.

- The integrity and effectiveness of construction fencing and erosion control measures will be inspected on a daily basis. Corrective actions and repairs will be carried out immediately for fence breaches and ineffective BMPs.

A hazardous spill plan will be developed prior to construction of any equipment yards or similar development on the parcel. The plan will describe what actions will be taken in the event of a spill. The plan will also incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained, and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities, and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall be available on site at all times. Containers for storage, transportation, and disposal of contaminated absorbent materials will be provided in the project area.

In many Bay Area counties, including San Mateo County, projects may also have to comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (MRP)* (Water Board Order No. R2-2015-0049). This MRP requires that all projects that meet certain criteria must implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after construction has been completed. To meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors. These same features will be used to treat any stormwater that flows to the riverine habitat during large storm events. The perennial freshwater marsh wetland is protected from indirect water quality impacts by the constructed berms for the impoundment. Thus, impacts on water quality would be reduced to a level of less-than-significant.

The project does not proposed to impact wetlands directly by filling or grading, and there is no vegetation removal proposed within the wetlands on-site. Temporary impacts due to construction access or staging are also not proposed. However, in the absence of measures to ensure that accidental impacts do not occur, it is possible that construction equipment could impact wetlands inadvertently. Implementation of the following mitigation measure will ensure that no such impacts occur, reducing impacts due to permanent or temporary disturbance of wetlands to a less-than-significant level.

**6.5 Mitigation Measure 29. Avoidance of Wetlands and Waters. All wetland habitat within 100 ft of project impact areas will be shown on project design plansets, and prior to project activities, these areas will be protected with high-visibility ESA fencing. Impacts on Wildlife Movement: 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**

### **6.5.1 Impacts on Wildlife Movement: (Less than Significant with Mitigation)**

For many species, the landscape in the BSA is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The BSA is situated adjacent to a housing development on its western border, SR 92 on its northern border, and a maintenance yard at its eastern end. This adjacent development currently restricts wildlife movement to and from habitats to the north, west, and east of the BSA. Thus, the study likely does not function as a high-quality movement corridor for most species, particularly special-status species. However, because Pilarcitos Creek runs along its southern border, wildlife are able to disperse into the BSA along this riparian corridor. Wildlife dispersing into or through the BSA are currently able to move between Pilarcitos Creek and the perennial freshwater marsh in the northwestern section of the BSA. Thus, any development of the intervening annual grassland between Pilarcitos Creek and the perennial freshwater marsh would result in isolating the marsh. For example, this isolation would most likely impact any California red-legged frog population currently utilizing the marsh as breeding habitat by restricting the species' ability to disperse to and from the marsh to other habitat patches for this species in the region connected by the creek (see Section 6.4.2 above). Therefore, any project activity that isolates the perennial marsh from Pilarcitos Creek would be considered significant under CEQA. However, implementation of Mitigation Measures 4 and 5 for California red-legged frogs and San Francisco garter snakes would reduce impacts on these and other species currently using the perennial marsh to a less-than significant level. Because the project does not propose to impact Pilarcitos Creek and will have little impact, if any, on the riparian habitat and associated buffer, wildlife will be able to continue moving through the site along the creek, and the project will not result in significant impacts to wildlife movement along the creek.

## **6.6 Impacts due to Conflicts with Local Policies: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance**

### **6.6.1 Impacts to Heritage Trees per Municipal Code Section 7.40 (Less than Significant with Mitigation)**

Per City of Half Moon Bay Municipal Code Section 7.40, Heritage Trees, a permit from the City Manager or his or her designee and payment of a fee are required for the removal of any trees which meets the definition of heritage tree, as defined in Section 3.4.2 above.



The BSA contains trees that likely meet the definition of a Heritage Tree. Because these trees are protected by the City of Half Moon Bay's heritage tree ordinance, their removal would meet the threshold of having a substantial adverse effect, and would be considered potentially significant under CEQA. Implementation of the following mitigation measure will reduce this impact to a less-than-significant level.

**Mitigation Measure 30.** During detailed design of the project, removal of trees protected by the City heritage tree ordinance will be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the BSA. Where removal on trees cannot be avoided, the project proponent will comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.

## **6.7 Impact due to Conflicts with an Adopted Habitat Conservation Plan: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (No Impact)**

The BSA is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such plans.

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## Personal Communications

John Doughty of the City of Half Moon Bay in an email on July 6, 2018 to, and a conversation on August 27, 2018 with, Jeff Wilkinson of H. T. Harvey & Associates.

## Appendix A. Plants Observed

Family	Scientific Name	Common Name	Wetland Indicator Status
Agavaceae	<i>Chlorogalum pomeridianum</i>	soap plant	UPL
Anacardiaceae	<i>Toxicodendron diversilobum</i>	poison oak	FAC
Apiaceae	<i>Conium maculatum</i>	poison hemlock	FAC
	<i>Hydrocotyle verticillata</i>	whorled marsh-pennywort	OBL
	<i>Torilis arvensis</i>	field hedge parsley	UPL
Araceae	<i>Lemna</i> sp.	duckweed	OBL
Araliaceae	<i>Hedera helix</i>	English ivy	FACU
Asteraceae	<i>Arctotheca prostrata</i>	creeping capeweed	UPL
	<i>Baccharis pilularis</i>	coyote brush	UPL
	<i>Carduus pycnocephalus</i>	Italian thistle	UPL
	<i>Cirsium vulgare</i>	bull thistle	FACU
	<i>Deinandra corymbosa</i>	coastal tarweed	UPL
	<i>Delairea odorata</i>	cape ivy	UPL
	<i>Helminthotheca echioides</i>	bristly ox-tongue	FAC
	<i>Lactuca serriola</i>	prickly lettuce	FACU
	<i>Madia sativa</i>	Chile tarweed	UPL
	<i>Silybum marinum</i>	milk thistle	UPL
Azollaceae	<i>Azolla filiculoides</i>	mosquito fern	OBL
Betulaceae	<i>Alnus rubra</i>	red alder	FAC
Brassicaceae	<i>Brassica nigra</i>	black mustard	UPL
	<i>Hirschfeldia incana</i>	Mediterranean hoary mustard	UPL
	<i>Raphanus sativus</i>	wild radish	UPL
Caryophyllaceae	<i>Silene gallica</i>	windmill pink	UPL
Cupressaceae	<i>Sequoia sempervirens</i>	coast redwood	UPL
Cyperaceae	<i>Carex barbarae</i>	Santa Barbara sedge	FAC
	<i>Carex densa</i>	dense sedge	OBL
	<i>Cyperus eragrostis</i>	tall flatsedge	FACW
Equisetaceae	<i>Equisetum arvense</i>	common horsetail	FAC
Fabaceae	<i>Acacia dealbata</i>	silver wattle	UPL
	<i>Genista monspessulana</i>	French broom	UPL
	<i>Lotus corniculatus</i>	bird's foot trefoil	FAC

Family	Scientific Name	Common Name	Wetland Indicator Status
	<i>Lupinus arboreus</i>	coastal bush lupine	UPL
	<i>Trifolium angustifolium</i>	narrow leaved clover	UPL
	<i>Vicia villosa</i>	hairy vetch	UPL
<b>Fagaceae</b>	<i>Quercus agrifolia</i>	coast live oak	UPL
<b>Junaceae</b>	<i>Juncus effusus</i>	bog rush	FACW
	<i>Juncus patens</i>	common rush	FACW
	<i>Juncus xiphioides</i>	iris leaved rush	OBL
<b>Lamiaceae</b>	<i>Stachys bullata</i>	California hedge nettle	UPL
<b>Linaceae</b>	<i>Linum bienne</i>	narrow leaved flax	UPL
<b>Myrtaceae</b>	<i>Eucalyptus globulus</i>	blue gum	UPL
<b>Pinaceae</b>	<i>Hesperocyparis macrocarpa</i>	Monterey cypress	UPL
	<i>Pinus radiata</i>	Monterey pine	UPL
	<i>Pseudotsuga menziesii</i>	Douglas fir	FACU
<b>Plataginaceae</b>	<i>Plantago coronopus</i>	cutleaf plantain	FAC
<b>Poaceae</b>	<i>Agoseris stolonifera</i>	creeping bentgrass	FAC
	<i>Aira caryophyllea</i>	silvery hairgrass	FACU
	<i>Avena</i> sp.	wild oats	UPL
	<i>Briza maxima</i>	rattlesnake grass	UPL
	<i>Briza minor</i>	little quaking grass	FAC
	<i>Bromus diandrus</i>	ripgut brome	UPL
	<i>Bromus hordeaceus</i>	soft chess	FACU
	<i>Cortaderia jubata</i>	Pampas grass	FACU
	<i>Cynosurus echinatus</i>	dogtail grass	UPL
	<i>Festuca perenne</i>	Italian ryegrass	FAC
	<i>Holcus lanatus</i>	velvet grass	FAC
	<i>Hordeum murinum</i>	meadow barley	FAC
	<i>Polypogon monspeliensis</i>	rabbitsfoot grass	FACW
<b>Polygonaceae</b>	<i>Rumex acetosella</i>	sheep sorrel	FACU
	<i>Rumex crispus</i>	curly dock	FAC
<b>Primulaceae</b>	<i>Lysimachia arvensis</i>	scarlet pimpernel	FAC
<b>Rosaceae</b>	<i>Cotoneaster pannosus</i>	silverleaf cotoneaster	UPL
	<i>Rubus armeniacus</i>	Himalayan blackberry	FAC
	<i>Rubus ursinus</i>	California blackberry	FACU
<b>Salicaceae</b>	<i>Salix laevigata</i>	red willow	FACW
	<i>Salix lasiandra</i>	Pacific willow	FACW



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<b>Family</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Wetland Indicator Status</b>
	<i>Salix lasiolepis</i>	arroyo willow	FACW
<b>Typhaceae</b>	<i>Typha latifolia</i>	common cattail	OBL
<b>Urticaceae</b>	<i>Urtica dioica</i> ssp. <i>dioica</i>	stinging nettle	FAC

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## Appendix B. Special-Status Plants Considered for Potential Occurrence

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
<b>Federal or State Endangered, Threatened, or Candidate Species</b>			
San Mateo thornmint ( <i>Acanthomintha duttonii</i> )	FE, SE, 1B.1	Annual herb. Occurs on serpentine in chaparral, valley and foothill grassland. Blooms April – June.	<b>Absent.</b> There is no suitable habitat present within the BSA due to the absence of serpentine substrate. Also, this species is highly restricted in distribution and is known from only two extant natural occurrences and one introduced population in San Mateo county. Therefore, this species is determined to be absent from the BSA.
Fountain thistle ( <i>Cirsium fontinale</i> var. <i>fontinale</i> )	FE, SE, 1B.1	Perennial herb. Occurs in serpentine seeps in chaparral openings and valley and foothill grassland. Blooms June – October.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine seeps in the BSA. Known only from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
San Mateo woolly sunflower ( <i>Eriophyllum latilobum</i> )	FE, SE, 1B.1	Perennial herb. Occurs on serpentine in cismontane woodland, often on roadcuts. Blooms May – June.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Also, this species is highly restricted in distribution and is known only from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Marin western flax ( <i>Hesperolinon congestum</i> )	FT, CT, 1B.1	Annual herb. Occurs on serpentine substrate in chaparral and valley and foothill grassland. Blooms April – July.	<b>Absent.</b> No suitable habitat is present within the BSA due to lack of serpentine substrate. Known only from the Crystal Springs Reservoir area. Therefore, this species is determined to be absent from the BSA.
Coast yellow leptosiphon ( <i>Leptosiphon croceus</i> )	SC; 1B.1	Annual herb. Occurs in coastal bluff scrub and coastal prairie. Blooms April – May.	<b>Absent.</b> There is no coastal bluff or scrub habitat present within the BSA. Also, this species is highly restricted in distribution and is known only from one population in Moss Beach. Therefore, this species is determined to be absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
White-rayed pentachaeta ( <i>Pentachaeta bellidiflora</i> )	FE, CE, 1B.1	Annual herb. Occurs on serpentine substrate on cismontane woodland and valley and foothill grassland. Blooms March – May.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Also, this species is highly restricted in distribution and is Known only from the Crystal Springs Reservoir area and near Edgewood Park and Natural Preserve. Therefore, this species is determined to be absent from the BSA.
Hickman's cinquefoil ( <i>Potentilla hickmanii</i> )	FE, SE, 1B.1, LCP	Perennial herb. Occurs in marshy areas within coastal bluff scrub and closed-cone coniferous forest. Also, vernal mesic meadows and seeps, and freshwater marshes and swamps. Blooms April – August	<b>Absent.</b> There is marginal freshwater marsh habitat for this species within the BSA. However, no suitable vegetation association is present. Additionally, this species is only known locally from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
<b>CRPR Species and Locally Rare Species</b>			
Blasdale's bent grass ( <i>Agrostis blasdalei</i> )	1B.2	Perennial grass. Occurs in coastal scrub, dunes, and prairie. Blooms May – July.	<b>Absent.</b> There is no suitable coastal scrub, dune, or prairie habitat for this species within the BSA. Known only from coastal sites in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Franciscan onion ( <i>Allium peninsulare</i> var. <i>franciscanum</i> )	1B.2	Perennial herb. Occurs on hillsides in cismontane woodland and valley and foothill grassland with serpentine, clay, and volcanic soils. Blooms May – June.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to the lack of suitable soils. Only known locally from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Bent-flowered fiddleneck ( <i>Amsinckia lunaris</i> )	1B.2	Annual herb. Coastal bluff scrub, cismontane woodland and valley and foothill grassland, often on serpentine soils. Blooms March – June.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine soils. Only known locally from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Additionally, there are no records of coastal occurrences. Therefore, this species is determined to be absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
California androsace ( <i>Androsace elongata</i> ssp. <i>acuta</i> )	4.2	Annual herb. Occurs on dry grassy slopes in chaparral, foothill woodland, northern coastal scrub, and coastal sage scrub. Blooms February – April.	<b>Absent.</b> There is no suitable chaparral habitat for this species within the BSA. Additionally, there are no recent records of occurrences in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Coast rock cress ( <i>Arabis blepharophylla</i> )	4.3; LCP	Perennial herb. Occurs in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Blooms February – May.	<b>Absent.</b> There is no suitable forest, scrub, or prairie habitat for this species within the BSA. Only known locally from a coastal site in San Mateo County and from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Santa Cruz manzanita ( <i>Arctostaphylos andersonii</i> )	1B.2	Occurs in openings and edges of broadleaved upland forest, chaparral, and North Coast coniferous forest. Blooms November – April.	<b>Absent.</b> There is no suitable forest or chaparral habitat for this species within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Therefore, this species is determined to be absent from the BSA.
Montara manzanita ( <i>Arctostaphylos montarensis</i> )	1B.2, LCP	Evergreen shrub. Occurs in maritime chaparral and coastal scrub. Blooms January– March.	<b>Absent.</b> There is no suitable chaparral habitat within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Only known locally from higher elevations within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Kings Mountain manzanita ( <i>Arctostaphylos regismontana</i> )	1B.2	Evergreen shrub. Occurs on granite or sandstone in broadleaved upland forest, chaparral, and North Coast coniferous forest. Blooms January – April.	<b>Absent.</b> There is no suitable granite or sandstone substrate within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Only known locally from higher elevations within open spaces east of Half Moon Bay. Therefore, this species is determined to be absent from the BSA.
Ocean bluff milk-vetch ( <i>Astragalus nuttallii</i> var. <i>nuttallii</i> )	4.2	Perennial herb. Occurs in coastal bluff scrub and coastal dunes in rocky or sandy areas. Blooms all year.	<b>Absent.</b> There is no suitable coastal bluff or dune habitat within the BSA. Only known locally from several coastal sites in San Mateo County and the Presidio in San Francisco. Therefore, this species is determined to be absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
Coastal marsh milk-vetch ( <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> )	1B.2	Perennial herb. Occurs in coastal salt marshes, seeps and mesic coastal dunes. Blooms April – October.	<b>Absent.</b> There is no salt marsh or coastal dune habitat for this species within the BSA. Only known locally from several coastal sites in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Brewer's calandrinia ( <i>Calandrinia breweri</i> )	4.2	Annual herb. Occurs in chaparral and coastal scrub. Blooms January – June.	<b>Absent.</b> There is no chaparral or coastal scrub habitat for this species within the BSA. Only known locally from the Crystal Springs Reservoir area. Therefore, this species is determined to be absent from the BSA.
Oakland star-tulip ( <i>Calochortus umbellatus</i> )	4.2	Perennial herb. Occurs in open chaparral or woodland, usually on serpentine substrate. Blooms March – May.	<b>Absent.</b> There is no suitable chaparral or woodland habitat for this species within the BSA. Only known locally from several locations in the Santa Cruz Mountains. Therefore, this species is determined to be absent from the BSA.
Johnny-nip ( <i>Castilleja ambigua</i> var. <i>ambigua</i> )	4.2	Annual herb. Occurs in mesic areas in coastal bluffs, coastal prairie, coastal scrub, and valley and foothill grassland. Also occurs in marshes and vernal pools. Blooms May – August.	<b>Absent.</b> There is marginal mesic grassland habitat present within the BSA. However, the grassland habitat is dominated by ruderal species. Additionally, no suitable vegetation association is present. Known locally from several coastal locations in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Pappose tarplant ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	1B.2	Annual herb. Occurs in coastal prairie, meadows and seeps coastal salt marshes and swamps and vernal mesic valley and foothill grassland often in alkaline soils. Blooms May – November.	<b>Absent.</b> There is no suitable mesic alkaline habitat present within the BSA. Only known locally from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
San Francisco Bay spineflower ( <i>Chorizanthe 4uspidate</i> var. <i>4uspidate</i> )	1B.2	Annual herb. Occurs on sandy soils in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of sandy soils. Known from only one recent occurrence at Thorton State Beach near San Francisco. Therefore, this species is determined to be absent from the BSA.



Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
Franciscan thistle ( <i>Cirsium andrewsii</i> )	1B.2	Perennial herb. Occurs on mesic and sometimes serpentine substrates in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Blooms March – July.	<b>Absent.</b> There is no suitable habitat for this species within the BSA, due to the lack of fserpentinitic bedrock geology. This species is presumed extirpated from San Mateo County. Therefore, this species is determined to be absent from the BSA.
San Francisco collinsia ( <i>Collinsia multicolor</i> )	1B.2	Annual herb. Occurs in moist, shady areas in closed cone coniferous forest and coastal scrub. Blooms March – May.	<b>Absent.</b> There is no suitable forest or coastal scrub habitat for this species within the BSA. There are no records of occurrences along the San Mateo coast. Therefore, this species is determined to be absent from the BSA.
Clustered lady's slipper ( <i>Cypripedium fasciculatum</i> )	4.2	Perennial herb. Occurs in mesic, shady areas of conifer forests. Blooms March – July.	<b>Absent.</b> Known from several locations in the Santa Cruz Mountains, but there is no suitable habitat for this species within the BSA, so this species is considered absent from the BSA.
Mountain lady's slipper ( <i>Cypripedium montanum</i> )	4.2	Perennial herb. Occurs in moist areas and dry slopes in mixed evergreen and conifer forests. Blooms March – June.	<b>Absent.</b> Known from one non-specific location near La Honda in San Mateo County, but there is no suitable habitat for this species within the BSA, so this species is considered absent from the BSA.
Western leatherwood ( <i>Dirca occidentalis</i> )	1B.2	Deciduous shrub. Occurs on mesic sites in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian scrub, and riparian woodland. Blooms January – April.	<b>Absent.</b> There is marginal habitat for this species within the BSA, and this species is known from higher elevation locations in the Santa Cruz Mountains in San Mateo County. Vegetative material would have been detectable during the June 2018 site visit and was not observed, so this species is considered absent from the BSA.
California bottle-brush ( <i>Elymus californicus</i> )	4.3	Perennial grass. Occurs in broadleaved upland forest, cismontane woodland, north coast coniferous forest, and riparian woodland. Blooms May – November.	<b>Absent.</b> There is marginal habitat for this species within the BSA. Known from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. However, there are no records of occurrences along the San Mateo coast, so this species is considered absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
San Francisco wallflower ( <i>Erysimum franciscanum</i> )	4.2; LCP	Perennial herb. Occurs on serpentine and granite substrate in coastal strand, northern coastal scrub, and valley grassland. Blooms March – June.	<b>Absent.</b> Known from the Crystal Springs Reservoir area. No suitable habitat for this species is present within the BSA due to lack of bedrock geology, so this species is considered absent from the BSA.
Beach strawberry ( <i>Fragaria chiloensis</i> )	LCP	Perennial herb. Occurs near the coast in sandy soils often in road cuts, on coastal bluffs, and on cliffs. Blooms February – March.	<b>Absent.</b> There is no suitable habitat present within the BSA due to lack of sandy soils. This species would have been detectable during the June 2018 site visit and was not observed, so this species is considered absent from the BSA.
Stinkbells ( <i>Fritillaria agrestis</i> )	4.2	Perennial herb. Occurs in clay soils on banks, depressions, and slopes in chaparral, valley grassland, and foothill woodland. Sometimes occurs in serpentine soils. Blooms March – June.	<b>Absent.</b> Known only from Año Nuevo State Park in southern San Mateo County. There is no suitable habitat present within the BSA, so this species is considered absent from the BSA.
Hillsborough chocolate lily ( <i>Fritillaria biflora</i> var. <i>Ineziana</i> )	1B.1	Perennial herb. Occurs on serpentine in cismontane woodland and valley and foothill grassland. Blooms March – April.	<b>Absent.</b> Known only from the Hillsborough area of San Mateo County. There is no suitable habitat for this species in the BSA due to lack of serpentine substrate, so this species is considered absent from the BSA.
Marin checker lily ( <i>Fritillaria lanceolata</i> var. <i>tristullis</i> )	1B.1	Perennial herb. Occurs in coastal prairie, coastal scrub, and coastal bluff scrub. Blooms February –May.	<b>Absent.</b> Known mainly from Marin County. There is one non-specific occurrence in Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat present within the BSA, so this species is considered absent from the BSA.
Fragrant fritillary ( <i>Fritillaria liliacea</i> )	1B.2	Perennial herb. Occurs in cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland near the coast, on heavy clay and serpentine soils. Blooms February – April.	<b>Absent.</b> Known from the Crystal Springs area. There is no suitable habitat for this species within the BSA due to a lack of bedrock geology, so this species is considered absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
San Francisco gumplant ( <i>Grindelia hirsutula</i> var. <i>maritima</i> )	1B.2	Perennial herb. Occurs on serpentine or sandy substrates in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Blooms August – September.	<b>Absent.</b> Known from Mc Nee State Park area. There is no suitable habitat present within the BSA due to lack of sandy or serpentine substrates, so this species is absent from the BSA.
Short-leaved evax ( <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> )	2.2	Annual herb. Occurs on sandy substrates in coastal bluff scrub and coastal dunes. Blooms March – June.	<b>Absent.</b> There is one non-specific occurrence from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat within the BSA due to the lack of serpentine or sandy substrates, so this species is absent from the BSA.
Kellogg's horkelia ( <i>Horkelia Tuneate</i> subsp. <i>sericea</i> )	1B.1	Annual herb. Occurs on sandy substrate in closed-cone coniferous forest, chaparral, coastal dunes, old sand hills, coastal scrub. Blooms April – September.	<b>Absent.</b> Known from near Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat present within the BSA due to lack of sandy substrate, so this species is absent from the BSA.
Point Reyes horkelia ( <i>Horkelia marinensis</i> )	1B.2	Perennial herb. Occurs on sandy substrates in coastal dunes, coastal prairie, and coastal scrub. Blooms May – September.	<b>Absent.</b> Known mainly from coastal areas in Santa Cruz County. There is one non-specific occurrence from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat present within the BSA due to lack of sandy substrate, so this species is absent from the BSA.
Harlequin lotus ( <i>Hosackia gracilis</i> )	4.2	Perennial herb. Occurs in marshes, shores, ponds, ditches, wet areas in meadows in mixed evergreen forest, northern coastal scrub, and closed-cone pine Forest. Blooms March – July.	<b>Possible.</b> There is suitable habitat present within the BSA. Known from several locations along the San Mateo coast and the Crystal Springs Reservoir area. Could potentially occur in the riparian habitat along Pilarcitos Creek
Coast iris ( <i>Iris longipetala</i> )	4.2	Perennial herb. Occurs in seeps and mesic areas in coastal prairie and lower montane coniferous forest.	<b>Absent.</b> Known from the Crystal Springs Reservoir area. There is no suitable habitat present within the BSA, so this species is absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
perennial goldfields ( <i>Lasthenia californica</i> ssp. <i>Macrantha</i> )	1B.2	Perennial herb. Occurs in coastal dunes, coastal bluff scrub, coastal scrub, and grasslands along immediate coast. Blooms January – November.	<b>Absent.</b> Known from nearby open spaces along the San Mateo County Coast, but there is no suitable habitat present within the BSA, so this species is absent from the BSA.
Bristly leptosiphon ( <i>Leptosiphon acicularis</i> )	4.2	Annual herb. Occurs in grassy areas in coastal prairie, chaparral, and foothill woodland. Blooms April – May.	<b>Absent.</b> Known from the Crystal Springs Reservoir area, but there is no suitable habitat present within the BSA, so this species is absent from the BSA.
Serpentine leptosiphon ( <i>Leptosiphon ambiguous</i> )	4.2	Annual herb. Occurs in grassy areas on serpentine soils. Blooms April – May.	<b>Absent.</b> There is no suitable habitat present within the BSA due to lack of serpentine substrate. There are no records of occurrences along the San Mateo coast. This species is absent from the BSA.
Large-flowered leptosiphon ( <i>Leptosiphon grandiflorus</i> )	4.2	Annual herb. Occurs in open grassy flats in coastal strand, foothill woodland, northern coastal scrub, coastal sage scrub, closed-cone pine forest, valley grassland, and coastal prairie, generally in sandy soil.	<b>Absent.</b> There is no suitable habitat present within the BSA, and there are no recent records occurrences in San Mateo County. Mainly known from Henry Coe State Park and the Mt. Hamilton area. This species is absent from the BSA.
Rose linanthus ( <i>Leptosiphon rosaceus</i> )	1B.1	Annual herb. Occurs in coastal bluff scrub. Blooms April – June.	<b>Absent.</b> Known from the Pillar Point Bluff area, but there is no suitable habitat present within the BSA, so this species is absent from the BSA.
Crystal Springs lessingia ( <i>Lessingia arachnoidea</i> )	1B.2	Annual herb. Occurs on serpentine in cismontane woodland, coastal scrub, and valley and foothill grassland. Blooms July – October.	<b>Absent.</b> Known from the Crystal Springs Reservoir area. There is no suitable habitat for this species within the BSA due to lack of serpentine substrate, so this species is absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
Woolly-headed lessingia ( <i>Lessingia hololeuca</i> )	3	Annual herb. Occurs in broadleaved upland forest, coastal scrub, lower montane coniferous forest and valley and foothill grassland on clayey and serpentine substrates. Blooms June – October.	<b>Absent.</b> Known from the Crystal Springs Reservoir area. There is no suitable habitat for this species within the BSA due to lack of serpentine and clayey substrates, so this species is absent from the BSA.
Coast lily ( <i>Lilium maritimum</i> )	1B.1	Perennial herb. Occurs in broadleaved upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, and freshwater marshes and swamps. Blooms May – July.	<b>Absent.</b> Known from Point Reyes National Seashore in Marin County. There is suitable habitat for this species within the BSA. However, this species is presumed extirpated from San Mateo County, so this species is absent from the BSA.
Ornduff's meadowfoam ( <i>Limnanthes douglasii</i> var. <i>ornduffii</i> )	1B.2	Annual herb. Occurs in mesic meadows and seeps as well as agricultural fields in coastal prairie. Referred to as yellow meadowfoam in the LCP Blooms. March – May.	<b>Absent.</b> There is marginal habitat present within the BSA. However, this species is highly restricted in distribution and is known only from the Pillar Point Bluff area, so this species is absent from the BSA.
San Mateo tree lupine ( <i>Lupinus arboreus</i> var. <i>eximius</i> )	3.2; LCP	Evergreen shrub. Occurs in chaparral and coastal scrub. Referred to as Davy's Bush Lupine in the LCP. Blooms April – July.	<b>Absent.</b> Known from McNee Ranch State Park and Montara mountain. There is no suitable habitat for this species within the BSA, so this species is absent from the BSA.
Indian Valley bush mallow ( <i>Malacothamnus aboriginum</i> )	1B.2	Deciduous shrub. Occurs on rocky and often burned areas in chaparral and cismontane woodland. Blooms April – October.	<b>Absent.</b> There is one non-specific occurrence from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Known mainly from San Benito County. There is no suitable habitat for this species within the BSA due to lack of rocky substrate, so this species is absent from the BSA.
Arcuate bush mallow ( <i>Malacothamnus arcuatus</i> )	1B.2	Evergreen shrub. Occurs in chaparral. Blooms April – September.	<b>Absent.</b> Known from the Crystal Springs Reservoir area. There is no suitable habitat for this species within the BSA. Vegetative material would have been detectable during the June 2018 site visit but none was seen. Therefore, this species is absent from the BSA.



Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
Davidson's bush mallow ( <i>Malacothamnus davidsonii</i> )	1B.2	Deciduous shrub. Occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Blooms June – January.	<b>Absent.</b> There is marginal habitat present within the BSA. However, this species is known only from locations in the Santa Cruz Mountains, so this species is absent from the BSA.
Hall's bush mallow ( <i>Malacothamnus hallii</i> )	1B.2	Evergreen shrub. Occurs in open areas in chaparral and coastal scrub. Blooms May – September.	<b>Absent.</b> There is no suitable chaparral or coastal scrub habitat for this species within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Additionally, this species is only known locally from locations in the Santa Cruz Mountains. Therefore, this species is determined to be absent from the BSA.
Marsh microseris ( <i>Microseris paludosa</i> )	1B.2	Perennial herb. Occurs in moist areas in closed-cone coniferous forest, cismontane woodland, coastal scrub and valley and foothill grassland. Blooms April – June.	<b>Absent.</b> There is marginal mesic grassland habitat for this species within the BSA. However, this species is known only from one recent occurrence in San Mateo County, near Pescadero. Therefore, this species is determined to be absent from the BSA.
Elongate copper moss ( <i>Mielichhoferia elongata</i> )	4.3	Moss. Occurs in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, and subalpine coniferous forest on vernal mesic, acidic metamorphic rock.	<b>Absent.</b> There is no suitable metamorphic rock habitat for this species within the BSA. Known only from one non-specific location in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Woodland woolythreads ( <i>Monolopia gracilens</i> )	1B.2	Annual herb. Occurs on serpentine substrate in broadleaved upland forest, chaparral, cismontane woodland, north coast coniferous forest and valley and foothill grassland, usually in open areas. Blooms February – July	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Only known locally from locations in the Santa Cruz Mountains. Therefore, this species is determined to be absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
Gairdner's yampah ( <i>Perideridia gairdneri</i> ssp. <i>gairdneri</i> )	4.2; LCP	Perennial herb. Occurs in moist soils within broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools. Blooms June – October.	<b>Absent.</b> There is marginal mesic grassland habitat for this species within the BSA. However, only known from the Crystal Springs Reservoir area and the Pescadero area. Additionally, no suitable vegetation association is present. Therefore, this species is determined to be absent from the BSA.
Dudley's lousewort ( <i>Pedicularis dudleyi</i> )	1B.2	Perennial herb. Occurs in coastal chaparral and coniferous forest. Blooms April – June.	<b>Absent.</b> There is no suitable chaparral and forest habitat for this species within the BSA. Also, this species is known only from several locations in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Choris's popcorn-flower ( <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> )	1B.2	Annual herb. Occurs in moist areas within coastal scrub and chaparral, Blooms March – June.	<b>Absent.</b> There is no suitable coastal scrub habitat for this species within the BSA. Only known locally from coastal scrub habitats along the San Mateo County Coast, including Half Moon Bay. Therefore, this species is determined to be absent from the BSA.
Monterey pine ( <i>Pinus radiata</i> )	1B.1, LCP	Perennial evergreen tree. Occurs in Closed-cone coniferous forest and Cismontane woodland. Commonly planted as an ornamental throughout coastal California.	<b>Present as an ornamental.</b> The Monterey pines present within the BSA were planted as part of landscaping and do not naturally occur in the BSA. Only three native stands are known in CA, at Año Nuevo, Cambria, and the Monterey Peninsula. Therefore, native stands of Monterey pine are determined to be absent from the BSA.
Michael's rein orchid ( <i>Piperia michaelii</i> )	4.2	Perennial herb. Occurs in coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Blooms April – June.	<b>Absent.</b> There is no suitable woodland or chaparral habitat for this species within the BSA. Only known from coniferous forest locations in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Oregon polemonium ( <i>Polemonium carneum</i> )	2.2	Perennial herb. Occurs in coastal scrub and lower montane coniferous forest. Blooms from April – September	<b>Absent.</b> There is no suitable scrub or forest habitat for this species within the BSA. Only known locally from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
Lobb's aquatic buttercup ( <i>Ranunculus lobbii</i> )	4.2	Annual herb. Occurs in freshwater ponds, wetlands, and vernal pools. Blooms from February – May.	<b>Absent.</b> There is marginal habitat present within the BSA. Additionally, No suitable vegetation association is present. Only known locally from the Crystal Springs Reservoir area. Therefore, this species is determined to be absent from the BSA.
Hoffmann's sanicle ( <i>Sanicula hoffmannii</i> )	4.3	Perennial herb. Occurs in broadleaved upland forest, coastal bluff scrub, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Blooms March – May.	<b>Absent.</b> There is suitable chaparral or woodland habitat present within the BSA. Only known from several locations in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Chaparral ragwort ( <i>Senecio aphanactis</i> )	2B.2	Annual herb. Occurs in dry, open rocky areas in chaparral, cismontane woodland, and coastal scrub. Also occurs in alkaline flats. Blooms February – May.	<b>Absent.</b> There is no suitable chaparral or woodland habitat for this species within the BSA. Locally, there is only one non-specific occurrence near Purisima Creek Redwoods and Open Space Preserve. Therefore, this species is determined to be absent from the BSA.
San Francisco campion ( <i>Silene verecunda</i> ssp. <i>Verecunda</i> )	1B.2, LCP	Perennial herb. Occurs on sandy substrate in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Referred to as Dolores campion in the LCP Blooms February – August.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of sandy substrate. Only known locally from the higher elevations within the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Marsh zigadenus ( <i>Toxicoscordion fontanum</i> )	4.2	Perennial herb. Occurs in vernal moist areas, marshes, and wetlands, often on serpentine soils in chaparral and mixed evergreen forest. Blooms April – July.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine soils. Known from only one location near Crystal Spring Reservoir area. Therefore, this species is determined to be absent from the BSA.
Saline clover ( <i>Trifolium hydrophilum</i> )	1B.2	Annual herb. Occurs in salt marshes, mesic sites in valley and foothill grassland, and vernal pools on alkaline soils. Blooms April – June.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due lack of alkaline soils. Additionally, there is only one non-specific occurrence for this species in San Mateo County. Therefore, this species is determined to be absent from the BSA.

Name	Status <sup>1</sup>	General Habitat Description	Potential for occurrence in the BSA <sup>2</sup>
San Francisco owl's clover ( <i>Triphysaria floribunda</i> )	1B.2	Annual herb. Usually occurs on serpentine substrate in coastal prairie, coastal scrub, valley and foothill grassland. Blooms April – June.	<b>Absent.</b> There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Only known from the higher elevations within the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Coastal triquetrella ( <i>Triquetrella californica</i> )	1B.2	Moss. Occurs on soil in coastal bluff scrub and coastal scrub.	<b>Absent.</b> There is no suitable coastal scrub habitat present within the BSA. Only known from near Pilarcitos Lake in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Methuselah's beard lichen ( <i>Usnea longissima</i> )	4.2	Lichen. Occurs in broadleafed upland forest and North Coast coniferous forest.	<b>Absent.</b> There is no suitable forest habitat present within the BSA. Known from a single occurrence in the Santa Cruz Mountains near Purisima Creek Redwoods Open Space Reserve. Therefore, this species is determined to be absent from the BSA.

<sup>1</sup> Status definitions:

FE = federally listed as endangered.

FT = federally listed as threatened.

SE = state listed as endangered.

ST = state listed as threatened.

SC = State Candidate for listing

LCP = Species identified as rare, threatened or endangered and are located in the San Mateo County Coastal Zone as indicated in the City of Half Moon Bay Local Coastal Plan (1993).

California Rare Plant Rank (CRPR)

1A = plants presumed extirpated in California and either rare or extinct elsewhere.

1B = plants rare, threatened, or endangered in California and elsewhere.

2A = plants presumed extirpated in California, but common elsewhere.

2B = plants rare, threatened, or endangered in California, but more common elsewhere.

3 = plants about which more information is needed—a review list.

4 = plants of limited distribution—a watch list.

Threat code extension

.1 = seriously threatened in California.

.2 = fairly endangered in California.

.3 = not very endangered in California.

<sup>2</sup> Definitions regarding potential occurrence:

Possible = Species was not observed during the reconnaissance surveys, but suitable habitat is present (habitat type, soils, and elevation), and the species is known to occur in the project vicinity.

Absent = Suitable habitat is not present, or the project site is outside the species' local distribution or elevational range.



## Appendix C. Special-Status Animals Considered for Potential Occurrence

Name	Status <sup>1</sup>	General Habitat Description	Potential for Occurrence in the BSA <sup>2</sup>
<b>Federal or State Endangered, Threatened, or Candidate Species</b>			
Bay checkerspot butterfly ( <i>Euphydryas editha bayensis</i> )	FT	Native grasslands on serpentine soils. Larval host plants are <i>Plantago erecta</i> and/or <i>Castilleja</i> sp.	<b>Absent.</b> No suitable breeding or feeding habitat is present in the BSA. Further, suitable habitat for the species larval host plants, <i>Plantago erecta</i> and/or <i>Castilleja</i> sp., is not present in the BSA. Determined to be absent.
Mission blue butterfly ( <i>Plebejus icarioides missionensis</i> )	FE	Coastal chaparral and coastal grasslands. Larval host plant are <i>Lupinus</i> spp.	<b>Absent.</b> No suitable breeding or feeding habitat is present in the BSA. Further, suitable habitat for the species larval host plants, <i>Lupinus</i> spp., is not present in the BSA. Determined to be absent.
Myrtle's silverspot butterfly ( <i>Speyeria zerene myrtleae</i> )	FE	Coastal dune and prairie habitat. Larval host plants are violets, typically <i>Viola adunca</i> .	<b>Absent.</b> No suitable breeding or feeding habitat is present in the BSA. Further, suitable habitat for the species larval host plants, violets (typically <i>Viola adunca</i> ), is not present in the BSA. Determined to be absent.
Monarch butterfly ( <i>Danaus plexippus</i> )	FC	Overwintering roosts along the California coast from Mendocino County south to Baja California. Feed and breed exclusively on plant species in the subfamily Asclepiadoideae.	<b>Possible.</b> No suitable breeding or feeding habitat is present in the BSA due to the absence of milkweeds ( <i>Asclepias</i> spp.). No overwintering roosts known in the BSA according to the Western Monarch Count's mapping tool – linked to in the Service's April 29, 2021 "Western Monarch Butterfly Conservation Recommendations" (USFWS 2021b). May occur as an occasional migrant, but not expected to breed or occur commonly/regularly in the BSA.
San Bruno elfin butterfly ( <i>Callophrys mossii bayensis</i> )	FE	Coastal mountains near San Francisco Bay in the fog-belt of steep, north-facing slopes. Larval food plant is <i>Sedum spathulifolium</i> .	<b>Absent.</b> The San Bruno elfin butterfly is known only from the San Bruno Mountain, Milagra Ridge, and Montara Mountain in San Mateo County. Further, suitable habitat for the species larval host plant, broadleaf stonecrop ( <i>Sedum spathulifolium</i> ), a low growing succulent that grows in rocky outcrops on steep north facing slopes, is not present in the BSA. Determined to be absent.
Crotch bumble bee <i>Bombus crotchii</i>	SC	Open grassland and scrub habitats.	<b>Absent.</b> Although the species was historically found throughout the southern two-thirds of California, including the project vicinity, it is not expected to occur on the site due to recent range contractions (The Xerces Society 2018). Therefore, the species is determined to be absent.

Name	Status <sup>1</sup>	General Habitat Description	Potential for Occurrence in the BSA <sup>2</sup>
Western bumble bee <i>Bombus occidentalis</i>	SC	Meadows and grasslands with abundant floral resources.	<b>Absent.</b> Although the species was historically found throughout much of central and northern California, including the project vicinity, it is not expected to occur on the site due to recent range contractions (The Xerces Society 2018). Therefore, the species is determined to be absent.
Delta smelt <i>Hypomesus transpacificus</i>	FT, SE	Estuarine systems in the Sacramento-San Joaquin Delta.	<b>Absent.</b> The Delta smelt occurs in estuarine waters in the Sacramento/San Joaquin Delta region of San Francisco Bay. The reach of Pilarcitos Creek within the BSA is considered a freshwater stream. No suitable aquatic habitat is present in the BSA. Determined to be absent.
Longfin smelt <i>Spirinchus thaleichthys</i>	FC, ST	Spawns in fresh water in the upper end of the San Francisco Bay; occurs year-round in the South Bay.	<b>Absent.</b> No suitable aquatic habitat is present in the BSA. The BSA is not associated with the San Francisco Bay habitat for the species within the county. Determined to be absent.
Central California Coast steelhead <i>Oncorhynchus mykiss</i>	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	<b>Possible.</b> Adult steelhead migrate upstream in winter months, when adequate flows allow passage to upstream areas. This typically occurs between December and March. Eggs are laid in gravelly sections of the streambed, and hatch in spring. Juvenile steelhead remain in the creek system for one to three years before migrating to the ocean. Thus, steelhead can occur in Pilarcitos Creek year-round.
Tidewater goby <i>Eucyclogobius newberryi</i>	FE, CSSC	Brackish water habitats along coast, fairly still but not stagnant water and high oxygen levels.	<b>Absent.</b> The tidewater goby occurs in brackish, tidally influenced waters. The reach of Pilarcitos Creek within the BSA is approximately 1.7 mi upstream of the Pacific Ocean and is considered a freshwater stream. Further, the reach within the BSA lacks shallow lagoons or pools of still, non-stagnant waters, and is subject to flashy flows. These conditions make the BSA unsuitable for these and similar tidal species. Determined to be absent.
California red-legged frog <i>Rana draytonii</i>	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	<b>Present.</b> California red-legged frog adults and juveniles were observed in the perennial freshwater marsh in the BSA in 2005 (H. T. Harvey & Associates 2005). California red-legged frog adults were observed in Pilarcitos Creek approximately 0.5 mi from the BSA in 2006, and California red-legged frogs were observed in a pond in the vicinity of Pilarcitos Creek approximately 1.3 mi of the BSA in 2016 (CNDDDB 2021).

Name	Status <sup>1</sup>	General Habitat Description	Potential for Occurrence in the BSA <sup>2</sup>
Foothill yellow-legged frog ( <i>Rana boylei</i> )	SE	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	<b>Absent.</b> Nearest CNDDDB record is over 16 mi southeast of the BSA (CNDDDB 2021). Typical suitable habitat for the foothill yellow-legged frog (i.e., boulders and cobbles in open stream habitat) is not present. Determined to be absent.
California tiger salamander ( <i>Ambystoma californiense</i> )	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	<b>Absent.</b> No suitable habitat is present in the BSA. Further, populations have largely been extirpated from San Mateo County due to habitat loss, and the species is now considered absent from most of the project vicinity, including the BSA. The closest occurrence in the project vicinity is at Lake Lagunita on the Stanford campus, which is approximately 14 mi south of, and on the opposite side of the Santa Cruz Mountains from, the BSA (CNDDDB 2021). Determined to be absent.
San Francisco garter snake ( <i>Thamnophis sirtalis tetrataenia</i> )	FE, SE, SP	Prefer densely vegetated freshwater habitats. May use upland burrows for aestivation.	<b>Possible.</b> Pilarcitos Creek and the perennial freshwater marsh in the BSA provides suitable foraging habitat. An observation of the San Francisco garter snake in Pilarcitos Creek approximately 0.5 mi from the BSA has been recorded in CNDDDB in 2004.
Salt marsh harvest mouse ( <i>Reithrodontomys raviventris</i> )	FE, SE, SP	Salt marsh habitat dominated by common pickleweed or alkali bulrush.	<b>Absent.</b> No suitable habitat is present in the BSA. Outside the species' range. Determined to be absent.
Bank swallow ( <i>Riparia riparia</i> )	ST	Colonial nester on vertical banks or cliffs with fine textured soils near water.	<b>Absent.</b> No suitable habitat present in the BSA. Determined to be absent.
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	FT, SE (nesting)	Requires dense, mature forests of redwood and Douglas-fir for breeding.	<b>Absent.</b> The BSA lacks suitable coastal coniferous forest nesting habitat for the marbled murrelet. Determined to be absent.
Mountain lion <i>Puma concolor</i>	SC	Occurs in a variety of habitats, such as deserts, woodlands, wetlands, and high-alpine forests. Preferred habitat is strongly correlated with densely vegetated areas, higher elevations, steep slopes, and abundant prey (Murphy 1983, Logan and Irwin 1985, Logan and Sweanor 2001).	<b>Possible.</b> Movement records of multiple mountain lions fitted with GPS-enabled wildlife-tracking collars, have shown individual lions moving through the surrounding area of the BSA over the past 10 years (Santa Cruz Puma Project 2018). The BSA does not provide suitable breeding and denning habitats, which is found far removed from the frequent human disturbances that occur within the BSA. Individual mountain lions may occur occasionally within the BSA as transients, as they move across their extensive home ranges, but they are expected to occur very infrequently.

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**California Species of Special Concern**

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Name	Status <sup>1</sup>	General Habitat Description	Potential for Occurrence in the BSA <sup>2</sup>
California giant salamander ( <i>Dicamptodon ensatus</i> )	CSSC	Usually found in cool, moist, forest habitat, associated with rocky streams and springs. Water, preferably cold and flowing, is necessary for egg-laying sites and for the aquatic larval and adult forms.	<b>Absent.</b> Nearest CNDDDB records are over 3 mi southeast and 5 mi north of the BSA (CNDDDB 2021). The BSA is outside the montane/foothill habitat where this species occurs. Determined to be absent.
Santa Cruz black salamander ( <i>Aneides niger</i> )	CSSC	Primarily found in moist habitats. Prefers cool, moist and shaded conditions along ravines and water courses.	<b>Absent.</b> Nearest CNDDDB record is over 7 mi southeast of the BSA (CNDDDB 2021). The BSA is outside the montane/foothill habitat where this species occurs. Determined to be absent.
Western pond turtle ( <i>Actinemys marmorata</i> )	CSSC	Permanent or nearly permanent water in a variety of habitats.	<b>Possible.</b> The reach of Pilarcitos Creek within and adjacent to the BSA is degraded due to surrounding development; however, suitable basking and foraging habitat for pond turtles is present in these areas. In addition, the nearest CNDDDB recorded observations are over 4 mi from the BSA in the area of the Crystal Springs Reservoir (CNDDDB 2021). Thus, there is some potential for pond turtles to be present in the BSA, though they are likely present in low numbers and/or infrequently. The perennial freshwater marsh is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species.
American badger ( <i>Taxidea taxus</i> )	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	<b>Absent.</b> Badgers are not expected to occur in the BSA due to disturbance, both on the site and in surrounding areas, coupled with the absence of nearby records. Determined to be absent.
Pallid bat ( <i>Antrozous pallidus</i> )	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	<b>Possible.</b> No suitable roosting habitat in the BSA. Individuals from colonies located within several miles of the BSA could potentially forage on the site in low numbers, though nothing about the site suggests that it provides particularly important foraging habitat for the species. Expected to occur in the BSA as an occasional forager, albeit infrequently and in low numbers.
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	<b>Possible.</b> Roosting habitat does not occur in the BSA but roosts do occur along the coastal region near Half Moon Bay, and individuals may occasionally occur in the BSA to forage or disperse. Expected to occur in the BSA as an occasional forager over the site, albeit infrequently and in low numbers.

Name	Status <sup>1</sup>	General Habitat Description	Potential for Occurrence in the BSA <sup>2</sup>
San Francisco dusky-footed woodrat ( <i>Neotoma fuscipes annectens</i> )	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	<b>Possible.</b> The riparian habitat associated with Pilarcitos Creek and around the freshwater marsh in the BSA provides suitable nesting habitat. The nearest CNDDDB record is near Pilarcitos Creek over 3 mi east-northeast of the BSA. No nests were observed during the reconnaissance-level survey, but this species could potentially nest or forage in, or disperse through, the riparian habitat in the BSA.
Alameda song sparrow ( <i>Melospiza melodia pusillula</i> )	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	<b>Absent.</b> The BSA is outside of the area where the species nests in San Mateo County, which is along the San Francisco Bay marsh habitat of the county. Determined to be absent.
Burrowing owl ( <i>Athene cunicularia</i> )	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels ( <i>Spermophilus beecheyi</i> ).	<b>Absent.</b> No nesting burrowing owls are known to occur in the surrounding project vicinity (CNDDDB 2021). The California annual grassland found in the BSA is too limited and surrounded by trees and development to provide good burrowing owl habitat. Thus, the species is not expected to occur in the BSA. Determined to be absent.
Northern harrier ( <i>Circus cyaneus</i> )	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	<b>Present.</b> The perennial freshwater marsh in the BSA provides suitable habitat. An individual (but not a nest) was observed foraging within this perennial freshwater marsh in 2014. Low probability of nesting in this marsh due to its limited size, though the species forages in low numbers in the marsh and ruderal grassland.
San Francisco common yellowthroat ( <i>Geothlypis trichas sinuosa</i> )	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	<b>Possible.</b> The riparian habitat associated with Pilarcitos Creek and the perennial freshwater marsh in the BSA provide suitable nesting and foraging habitat.
Yellow warbler ( <i>Setophaga petechia</i> )	CSSC (nesting)	Nests in riparian woodlands.	<b>Possible.</b> The riparian habitat associated with Pilarcitos Creek and around the perennial freshwater marsh in the BSA provides suitable foraging and nesting habitat. Likely to occur primarily as a migrant, but one or two pairs could potentially breed in the BSA.

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**California Fully Protected Species**


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Name	Status <sup>1</sup>	General Habitat Description	Potential for Occurrence in the BSA <sup>2</sup>
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	<b>Possible.</b> The riparian habitat associated with Pilarcitos Creek at the BSA and nearby open space provide suitable foraging habitat, but suitable nesting habitat is absent.
Golden eagle ( <i>Aquila chrysaetos</i> )	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	<b>Absent.</b> No suitable nesting habitat is present in the BSA, and the BSA is not expected to provide suitable prey or sufficiently extensive open foraging habitat for this species.
White-tailed kite ( <i>Elanus leucurus</i> )	SP	Nests in trees and forages in extensive grasslands or marshes.	<b>Present.</b> The riparian habitat associated with Pilarcitos Creek and around the perennial freshwater marsh in the BSA provide ostensibly suitable nesting habitat. An individual was observed in the vicinity of the perennial freshwater marsh in 2014.

<sup>1</sup> Special-status Species Code Designations:

- FE = Federally listed Endangered
- FT = Federally listed Threatened
- FC = Federal Candidate for listing
- SE = State listed Endangered
- ST = State listed Threatened
- SC = State Candidate for listing
- CSSC = California Species of Special Concern

<sup>2</sup> Definitions regarding potential occurrence:

- Present = Species or sign of its presence was observed on the site, or there are records of the species' occurrence on the site.
- Possible = Species was not observed during the reconnaissance surveys, but suitable habitat is present (habitat type, soils, and elevation), and the species is known to occur in the project vicinity.
- Absent = Suitable habitat is not present, or the project site is outside the species' local distribution or elevational range.





## **APPENDIX B2**

**Peer Review of the Biological Resources Report**

**880 Stone Pine Road Project**

**Technical Memorandum, SWCA Environmental Associates**





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## TECHNICAL MEMORANDUM

**To:** Todd Seeley  
City of Half Moon Bay  
501 Main Street  
Half Moon Bay, California 94019

**From:** Jessie Henderson-McBean, Project Wildlife Biologist

**Date:** November 22, 2021

**Re:** **Biological Resources Report (BRR) Peer Review for the City of Half Moon Bay Corporation Yard Upgrade Project, Half Moon Bay, San Mateo County, California / SWCA Project No. 67708**

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### INTRODUCTION

At the request of the City of Half Moon Bay (City), SWCA Environmental Consultants (SWCA) has prepared this Biological Resources Report (BRR) Peer Review to discuss the results of the site visit conducted by SWCA on September 2, 2021, to provide comments on the H.T. Harvey & Associates (H.T. Harvey) BRR results, and to provide recommendations regarding suggested avoidance measures. SWCA understands that the City Corporation Yard Upgrade Project (project) description was refined after the BRR prepared by H.T. Harvey on June 25, 2021, was finalized; therefore, there is now a better understanding of the project area and associated potential impacts. The Biological Study Area (BSA) analyzed in the H.T. Harvey BRR includes the current project area, and therefore potential impacts to biological resources are either expected to remain consistent with those identified in the BRR or have been reduced due to the smaller, refined project area.

### PROJECT OVERVIEW

The project area is located at the east end of Stone Pine Road between State Route (SR-) 92 and Pilarcitos Creek in the city of Half Moon Bay, San Mateo County, California (Figure 1). The project includes a lot line adjustment affecting two existing parcels. Parcel 1 would contain the Corporation Yard, access road, existing agricultural pond, conservation easement, and wildlife corridor for California red-legged frog (CRLF) (*Rana draytonii*) and San Francisco garter snake (SFGS) (*Thamnophis sirtalis tetrataenia*), and Parcel 2 would include the remaining area between the Corporation Yard and Stone Pine Road (see Figure 1). The project includes improvements to Parcel 1, including demolishing the existing trash enclosure; constructing a new paved road and parking areas; upgrades to electrical, water, and sewer facilities; and constructing new facilities, including a fabric tension warehouse building with restrooms, a covered trash/materials enclosure, and a solar field. The project also includes removal of existing fencing, which surrounds both parcels, and installing new fencing only around the corporation yard area in Parcel 1. On Parcel 2, the project activities will be limited to removal and restoration of the existing southern loop of the dirt access road. The access road alignment would be located as far north as is practicable, while taking into account driving safety, existing vegetation, and slope stability.

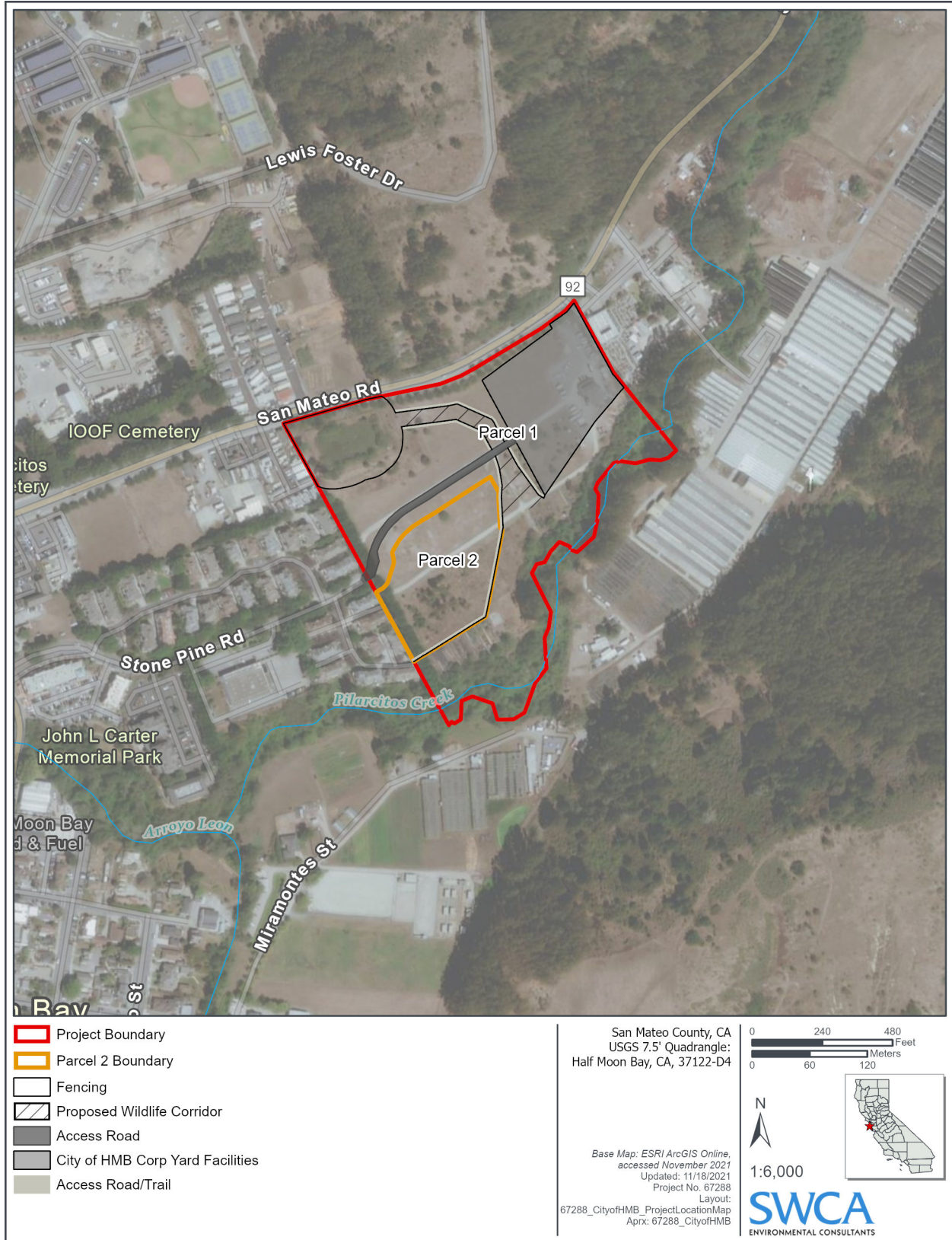


Figure 1. Project vicinity map.

The project would also include the construction of a wildlife corridor that would connect the existing agricultural pond in the northwest corner of the property with Pilarcitos Creek to the south. Development of the wildlife corridor would require construction of a wildlife-safe tunnel beneath the Corporation Yard access road, fencing to direct dispersing amphibians and reptiles through the tunnel, and temporary or permanent fencing along the riparian corridor to funnel any dispersing wildlife through the wildlife corridor. Additionally, the existing chain link fencing currently surrounding the existing agricultural pond would be removed and replaced at the Half Moon Bay Local Coastal Land Use Plan (LCLUP)–required 100-foot setback.

## **METHODS**

SWCA biologists reviewed the survey and literature review results in the H.T. Harvey BRR and then conducted an updated literature review. The literature review consisted of a records search of current versions of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) (CNDDDB 2021); the U.S. Fish and Wildlife Service (USFWS) online Information, Planning, and Conservation System (IPaC) species list system (USFWS 2021b); and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants (CNPS 2021) within the Half Moon Bay, Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda U.S. Geological Survey (USGS) topographic quadrangles. The USFWS Critical Habitat Mapper (USFWS 2021a) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries ESA Critical Habitat Mapper (NOAA 2021) were reviewed to identify critical habitat for terrestrial and aquatic species near the BSA. The National Wetlands Inventory Database (USFWS 2021c) and USGS National Hydrography Dataset (NHD) (USGS 2019), U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey for San Mateo County (NRCS 2021), and aerial imagery were also reviewed to provide additional information about soils and potential wetland features known to occur in the BSA.

A reconnaissance-level field survey was conducted on September 2, 2021, by SWCA biologist Jessie Henderson-McBean. The study area was surveyed by walking meandering transects through the area to document habitat conditions and to determine the potential for sensitive species presence. Special attention was paid to the hydrology present within the agricultural pond located in the northwest corner of the site. No focused species surveys or protocol-level surveys were conducted.

## **RESULTS**

The SWCA literature review results were consistent with those reported in the H.T. Harvey BRR, prepared in June 2021. SWCA reviewed the Regulatory Setting information outlined in Section 3 of the H.T. Harvey BRR and found that no additional regulatory information is needed.

Based on the results of the September 2021 site visit, SWCA concurs with the BSA existing conditions and habitat conditions reported in Section 4 of the H.T. Harvey BRR. However, it should be noted that the current project area consists of ruderal grassland and developed or landscaped areas. Riparian woodland, perennial freshwater marsh, and aquatic riverine habitats, reported in the H.T. Harvey BRR, are located in and adjacent to Parcel 1, but outside of the project area. No work is proposed within these sensitive habitats.

SWCA concurs with the Special-Status Species and Sensitive Habitats identified in Section 5 of the H.T. Harvey BRR. No additional special-status species or sensitive habitats were identified during the literature review or site assessment. Therefore, no additional CNDDDB maps, species lists, or habitat maps have been included in this memorandum.



## **IMPACTS AND MITIGATION MEASURES**

While the regulatory background, literature review, and sensitive species lists in the H.T. Harvey BRR were consistent with SWCA's findings, the potential impacts of the project have changed due to the refined project description. Additional analysis has been provided below to identify suggested edits to the impacts and mitigation measures reported in Section 6, Impacts and Mitigation Measures, of the H.T. Harvey BRR.

The H.T. Harvey BRR stated that it was assumed that no disturbance would occur to Pilarcitos Creek, the agricultural pond (freshwater marsh), or the riparian habitat associated with Pilarcitos Creek beyond existing allowed use under the City LCLUP. No direct disturbance to aquatic features or riparian habitat is anticipated as a result of the current project design. Therefore, the H.T. Harvey BRR assumption of avoidance of aquatic features and associated buffers is correct under the current project design with the exception of encroachment within the 100-foot buffer surrounding the agricultural pond to remove existing chain link fencing. The fencing to be removed will be replaced at the edge of the 100-foot buffer to protect the riparian habitat and agricultural pond. The relocated fencing will also provide a barrier to encourage dispersing reptiles and amphibians to utilize the wildlife corridor and prevent them from crossing the access road where they could encounter a vehicle. The removal of this fencing is anticipated to require minimal ground disturbance, but short-term impacts to species could occur in the vicinity of the fence removal as wildlife may be temporarily displaced due to increased human presence, noise, and dust disturbance. With implementation of additional suggested mitigation measures (31 through 39 below) and mitigation measures outlined in the H.T. Harvey BRR, potential short-term impacts to species would be minimized.

Potential impacts to ruderal grassland, developed areas, landscaped areas, and non-native woodland areas in the current project description are consistent with those analyzed in the H.T. Harvey BRR, although the project area within these habitats has been reduced.

### **Impacts on Common Plant and Animal Species**

SWCA concurs with the H.T. Harvey BRR finding that potential impacts to common plant and animal species would be less than significant. Although impacts to common plant and animal species would be minimal, SWCA recommends the following mitigation measures to further minimize any impacts to common wildlife during construction activities which may increase potential harm to wildlife:

*Mitigation Measure 31: If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord, and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits.*

### **Impacts on Special-Status Plants**

The H.T. Harvey BRR identified one special-status plant species as having moderate to high potential to occur in the agricultural pond (freshwater marsh habitat) and associated dense riparian woodland: harlequin lotus (*Hosackia gracilis*); California Rare Plant Rank 4.2). However, this species was not observed during the field-level reconnaissance survey conducted by H.T. Harvey in June 2018, the time at which this species is at the height of its bloom period.

As currently proposed, the project will not disturb the agricultural pond (freshwater marsh habitat) or riparian woodland vegetation. Although chain link fence removal is proposed within the 100-foot buffer surrounding the agricultural pond, no disturbance to the mesic portions of freshwater marsh habitat (i.e.,

suitable for harlequin lotus) is anticipated. Therefore, this species is not expected to occur within the current project area, and no impacts are expected as a result of the project. No additional mitigation measures are recommended.

SWCA recommends that H.T. Harvey BRR Mitigation Measures 1–3 (special-status plant surveys, avoidance buffers, and compensatory mitigation) be removed from project requirements. If any changes to the project description occur and ground disturbance is proposed within the riparian habitat, then Mitigation Measures 1–3 should be implemented as proposed by the H.T. Harvey BRR.

### **Impacts to California Red-Legged Frog and San Francisco Garter Snake**

SWCA concurs with the H.T. Harvey BRR findings that CRLF and SFGS are potentially present in Pilarcitos Creek and the agricultural pond (perennial freshwater marsh) located within the BSA. While the project is not anticipated to disturb either of these habitats, CRLF and SFGS individuals may forage and disperse through upland areas within the project area, as they potentially travel between Pilarcitos Creek and the agricultural pond. SWCA concurs with the implementation of Mitigation Measures 4, 8–15, and 17–22 to minimize potential impacts to these species during construction activities.

H.T. Harvey BRR Mitigation Measure 5 refers to off-site mitigation if avoidance of CRLF and SFGS habitat is not feasible. The proposed project will not disturb marsh or riparian habitat. While the proposed project will involve 1.4 acres of development in ruderal grassland habitat, the location of the Corporation Yard Upgrades is not within high-quality upland dispersal habitat and the development will be located east of the most direct dispersal pathway between the agricultural pond and Pilarcitos Creek (see Figure 1). Furthermore, the City retained Dr. Mark Jennings to consult on the design of a wildlife corridor connecting the existing agricultural pond with Pilarcitos Creek to ensure that the dispersal corridor between these two features was protected. The construction of this wildlife corridor would further minimize potential impacts to CRLF and SFGS during construction, as well as during operations and maintenance of the Corporation Yard. SWCA recommends that Mitigation Measure 5 be removed as it is no longer relevant to the project. In place of Mitigation Measure 5, SWCA suggests implementing the following additional mitigation measure pertaining to the wildlife corridor construction design:

*Mitigation Measure 33: A wildlife corridor shall be constructed as part of the project and would funnel any potentially dispersing CRLF or SFGS into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact CRLF or SFGS. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual CRLF and SFGS would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent CRLF or SFGS from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both CRLF and SFGS to provide a safe and suitable movement corridor without any further management actions required.*

SWCA recommends implementation of the following additional mitigation measure to reduce impacts to CRLF and SFGS during wildlife corridor construction:

*Mitigation Measure 34: Installation of the wildlife corridor fencing should take place during dry weather conditions to ensure that no dispersing CRLF or SFGS are trapped in upland areas.*

In addition to construction of the wildlife corridor, SWCA recommends implementation of the following mitigation measure to ensure efficacy of the wildlife corridor:

*Mitigation Measure 35: The wildlife corridor fencing will be maintained as a solid boundary to allow for safe wildlife movement between the agricultural pond and Pilarcitos Creek by funneling any dispersing wildlife through a tunnel beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The fencing, tunnel, and corridor will be maintained and repaired as needed by the City. A temporary material may be used for the fencing, such as ERTEC or similar, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing it will be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife boundary (e.g., chain link fencing with vinyl slats) or re-assessed for efficacy by a qualified biologist.*

H.T. Harvey BRR Mitigation Measure 6 calls for submittal of biologists resumes to USFWS and CDFW, and Mitigation Measure 7 requires that the wildlife exclusion barrier installation plan is submitted to USFWS and CDFW. No consultation with CDFW or USFWS is currently required for the project, and therefore submittal of materials to these agencies without a consultation is not required. Accordingly, SWCA recommends that Mitigation Measures 6 and 7 be replaced with the following two proposed mitigation measures:

*Mitigation Measure 36: The City will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species.*

*Mitigation Measure 37: A temporary wildlife exclusion barrier shall be installed at the discretion of the qualified biologist (or as required in project permits). Prior to any ground disturbance in the impact area, the temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to installation of the barrier. The barrier shall be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area and shall remain in place until all development activities have been completed. This barrier shall be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.*

H.T. Harvey BRR Mitigation Measures 8, 10, 13, 14, 15, and 17 all refer to “agency-approved biologists.” SWCA recommends that these measures be implemented as described in the H.T. Harvey BRR with the exception of replacement of the term “agency-approved biologist” with the term “qualified biologist” throughout these measures.

H.T. Harvey BRR Mitigation Measure 16 describes the protocol for relocation of CRLF. The proposed project does not intend to consult with USFWS as the project does not require this consultation at this time. Therefore, SWCA proposes an amendment to Mitigation Measure 16, rewritten as follows:

*Mitigation Measure 38: If any California red-legged frogs are found during implementation of mitigation measures, the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.*

With implementation of the mitigation measures described above and in the H.T. Harvey BRR, impacts to CRLF and SFGS would be less than significant.

### **Impacts to Central California Coast Steelhead and Western Pond Turtle**

SWCA concurs with the H.T. Harvey BRR findings that Central California Coast steelhead (*Oncorhynchus mykiss irideus*) and western pond turtle (*Actinemys marmorata*) may be present in Pilarcitos Creek; however, direct impacts to these species are not expected as no disturbance is expected to occur within Pilarcitos Creek. As stated in the H.T. Harvey BRR, potential impacts to Pilarcitos Creek as a result of construction-related pollutants would be minimized with implementation of the stormwater pollution prevention plan (SWPPP), California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (MRP) (Water Board Order No. R2-2015-0049) and best management practices (BMPs).

While potential impacts to individual western pond turtles could occur if an individual were to enter the upland areas within the project area, the proposed wildlife corridor and wildlife fencing would allow any dispersing western pond turtles to freely move between Pilarcitos Creek and the agricultural pond (freshwater marsh habitat) without entering the project area. The construction of the wildlife corridor will not only minimize potential impacts to western pond turtle during construction, but will also protect individuals from potentially being injured or killed by vehicle traffic along the access road during operation and maintenance.

Potential impacts to these species will be minimized through implementation of Mitigation Measures 7–10 and 12–22 described in the H.T. Harvey BRR, such that potential impacts to these species would be less than significant.

### **Impacts to San Francisco Dusky-Footed Woodrat**

SWCA concurs with the H.T. Harvey BRR finding that impacts to San Francisco dusky-footed woodrat would be less than significant with implementation of Mitigation Measures 23–25. No additional mitigation measures are recommended.

### **Impacts on Nonbreeding Special-Status Animals**

The H.T. Harvey BRR concluded that potential impacts to non-breeding special-status animals on-site would be less than significant. While no large cavities are present within the project area that could provide suitable habitat for large maternity colonies of roosting bats, individual tree-roosting bats such as western red bat (*Lasiurus blossevillei*) may roost within the project area. Tree removal may result in injury or death to individual roosting bats, and therefore SWCA recommends the addition of the following mitigation measure:

*Mitigation Measure 39: Minimize potential impacts to individual roosting bats:*

- a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary.*
- b. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal will begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking forage). Trees will be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.*

With implementation of the mitigation measures described above and in the H.T. Harvey BRR, impacts to non-breeding special-status animals would be less than significant.

### **Impacts on the San Francisco Common Yellowthroat, Yellow Warbler, and Raptors including White-Tailed Kite**

SWCA concurs with the H.T. Harvey BRR findings that impacts to San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), yellow warbler (*Setophaga petechia*), white-tailed kite (*Elanus leucurus*), and other raptors would be less than significant. SWCA concurs with the implementation of Recommended Measures A–C to comply with the Migratory Bird Treaty Act and California Fish and Game Code. No additional mitigation measures are recommended.

### **Impacts to Riparian Habitats or Other Sensitive Natural Communities**

SWCA concurs with the H.T. Harvey BRR findings regarding potential impacts to riparian habitat or other sensitive natural communities. The project will not directly disturb the riparian habitat present; however, the project does propose removal of the existing chain link fencing surrounding the agricultural pond that is currently within the 100-foot buffer surrounding the agricultural pond. Fence removal is not expected to directly impact riparian habitat, and indirect impacts will be minimized and avoided through implementation of the SWPPP, MRP, and BMPs. SWCA concurs with the implementation of Mitigation Measure 26 and impacts to riparian habitats or sensitive natural communities would be less than significant.

Mitigation Measures 27 and 28 refer to pruning riparian trees and removal of riparian habitat. No removal of riparian vegetation is currently proposed as part of the project, and therefore SWCA recommends removal of these mitigation measures as they are no longer relevant to the project.

### **Impacts Caused by Non-Native and Invasive Species**

SWCA concurs with the H.T. Harvey BRR findings that impacts caused by non-native and invasive species would be less than significant with the implementation of Mitigation Measure 29. No additional mitigation measures are recommended.

### **Impacts on Wetlands and Waters**

SWCA concurs with the H.T. Harvey BRR findings regarding potential impacts to wetlands and waters. No direct impacts to wetlands or waters are currently part of the proposed project. Indirect impacts to wetlands and waters may occur during construction activities; however, with the implementation of the SWPPP, MRP, and BMPs, potential impacts would be less than significant. No additional mitigation measures are recommended.

### **Impacts on Wildlife Movement**

SWCA concurs with the H.T. Harvey BRR findings that impacts to wildlife movement as a result of the project would be less than significant with implementation of mitigation measures. Wildlife will be able to move and disperse freely along Pilarcitos Creek and the riparian corridor. The construction of the wildlife corridor linking Pilarcitos Creek with the agricultural pond on-site will ensure that dispersing wildlife will be able to safely move between these two aquatic habitats. No additional mitigation measures are recommended.

**Impacts to Heritage Trees per Municipal Code Section 7.40**

The H.T. Harvey BRR identified over 100 trees present within the site; however, a tree survey was not included as part of the H.T. Harvey BRR preparation. Given that a refined project description is now available, a tree survey (i.e., arborist report) is recommended to determine if any of the trees within the project area have heritage status in accordance with the standards of Chapter 7.40 of the City of Half Moon Bay Municipal Code. SWCA concurs with the H.T. Harvey BRR findings that impacts to heritage trees would be less than significant with implementation of Mitigation Measure 30, which addresses heritage tree avoidance or tree replanting where avoidance is not possible.

**Impacts due to Conflicts with an Adopted Habitat Conservation Plan**

SWCA concurs with the H.T. Harvey BRR findings regarding potential conflicts with a Habitat Conservation Plan (HCP). The BSA is not located within an area covered by an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.



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## **APPENDIX B3**

**Preliminary Delineation of Wetlands and Other Waters**

**Delineation of Coastal Zone Wetlands Within**

**California Coastal Commission Jurisdiction**

**880 Stone Pine Road Project**

**H.T. Harvey & Associates**





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50 years of field notes, exploration, and excellence



**880 Stone Pine Road Project  
Half Moon Bay, San Mateo County, California**

**Preliminary Delineation of Wetlands  
and Other Waters/Delineation of Coastal Zone Wetlands  
Within California Coastal Commission Jurisdiction**

**Project #4182-03**

Prepared for:

John Doughty  
**City of Half Moon Bay**  
501 Main Street  
Half Moon Bay, CA 94019

Prepared by:

**H. T. Harvey & Associates**

October 12, 2020

# Executive Summary

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H. T. Harvey & Associates surveyed an approximately 21-acre (ac) study area located in Half Moon Bay in San Mateo County that encompasses the public works yard at 880 Stone Pine Road for wetlands and other waters potentially subject to regulation under Section 404 of the Clean Water Act as administered by the United States Army Corps of Engineers (USACE). The survey also delineated the extent of waters of the state that may be subject to regulation by the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act and under the Porter Cologne Water Quality Control Act. Lastly, the survey also delineated jurisdictional habitats subject to regulation under Sections 1600-1607 of the California Fish and Game Code, which is administered by the California Department of Fish and Wildlife (CDFW). Areas were also surveyed using the California Coastal Commission (CCC) approach to wetland delineation (i.e. any one of the three parameters typically used by USACE present at a sample point is indicative of CCC wetland habitat).

In total, approximately 0.91 acres of potentially jurisdictional features as defined by the USACE and the RWQCB were identified in the study area. These include approximately 0.29 acres of Section 404 and Section 401 waters situated below the ordinary high water mark (OHWM) line of Pilarcitos Creek, which forms the southeastern edge of the property. Sections 404 and 401 wetlands are also present within an abandoned stock pond which is perennially inundated and presently occupied by emergent freshwater marsh totaling 0.38 acres. Section 401 waters of the state extend farther up to the top of the bank from Pilarcitos Creek, for an additional 0.24 acres.

CDFW jurisdictional features as defined by bed and bank topography and riparian habitat were identified in the study area, which totaled 3.52 acres and includes riparian habitat beyond the top of bank. Approximately 2.85 acres of riparian habitat were identified in the project area. Areas that fall with the jurisdiction of the CCC include all 3.52 acres that are also considered jurisdictional by CDFW.

## Summary of Jurisdictional Waters and Habitats within the Project and Study Areas

Potentially Jurisdictional Habitats	Study Area (Acres) <sup>1</sup>
<b>Section 404 Waters of the U.S. Total</b>	<b>0.67</b>
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
<b>Section 401 Waters of the State (Up to Top of Bank) Total</b>	<b>0.91</b>
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland (within top of bank)	0.24
<b>CDFW and CCC Jurisdiction Total</b>	<b>3.52</b>
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland	2.85

<sup>1</sup> Note: Values are approximate due to rounding.



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# Section 1. Introduction

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## 1.1 Study Area Description

The approximately 21-acre (ac) study area is located in Half Moon Bay in San Mateo County (Figure 1). The study area is located between State Route (SR) 92 and Pilarcitos Creek near downtown Half Moon Bay and is the site of a former plant nursery (Figure 2). It is located within the *Half Moon Bay California* 7.5-minute USGS quadrangle (Figure 3). A man-made impoundment and several buildings occur in the northwest corner and northeast corners of the site, respectively. Additionally, there is still infrastructure present from former nursery operations, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete channels, and irrigation pumps and pipes. During the site visit, a large portion of the grassland had been recently mowed. Also, sections of the grassland were covered in wood chips. As such, the ground cloths and mulch inhibit vegetation growth. West of the study area is high-density development associated with the City of Half Moon Bay; north of the study area is SR 92, a heavily used road between Half Moon Bay and Interstate 280; east of the study area between SR 92 and Pilarcitos Creek, and on both sides of Pilarcitos Creek are various small agricultural parcels with associated infrastructure and development; south of the study area is agricultural parcels along Pilarcitos Creek that opens to rural land, with the Miramontes Ridge Open Space Reserve to the southeast.

The climate at the study area is coastal Mediterranean, with most rain falling in the winter and spring. Fog and cool temperatures are common in the summer. Climate conditions in the study area include a 30-year average of approximately 29.16 inches of annual precipitation with an average temperature range from 52°F to 61°F (PRISM 2020). Relative to the 30-year climate normal, precipitation in the preceding rain year (June 2019–May 2020; 15.99 inches) was approximately 55% of normal for that time period (PRISM 2020). Elevations within the study area range from approximately 60 feet (ft) to 110 ft above sea level (WGS84) (Google 2020).

Based on a review of available soil survey maps for the area including those by the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS), the study area is generally comprised of coarse sandy loam soils adjacent to Pilarcitos Creek, such as the Farallone soil series, and clay loams, such as the Tierra soil series, upslope to SR 92 (NRCS 2020a). Soils across the study area are generally greater than 60 inches in depth with the exception of areas in the northeastern portion of the site containing Gazos (GoF3 and Gv) soils, which are less than 30 inches to a root-restrictive layer. The Farallone loam, nearly level, Gullied land, Gullied land (Gazos-Lobitos soil material), and Tierra clay loam, moderately steep, eroded soil series (totaling 12.3 acres) are listed as hydric in San Mateo County on the National Hydric Soils List (NRCS 2020b). Eight major soil series within the study area are shown on Figure 4 and are summarized in Table 3 below.

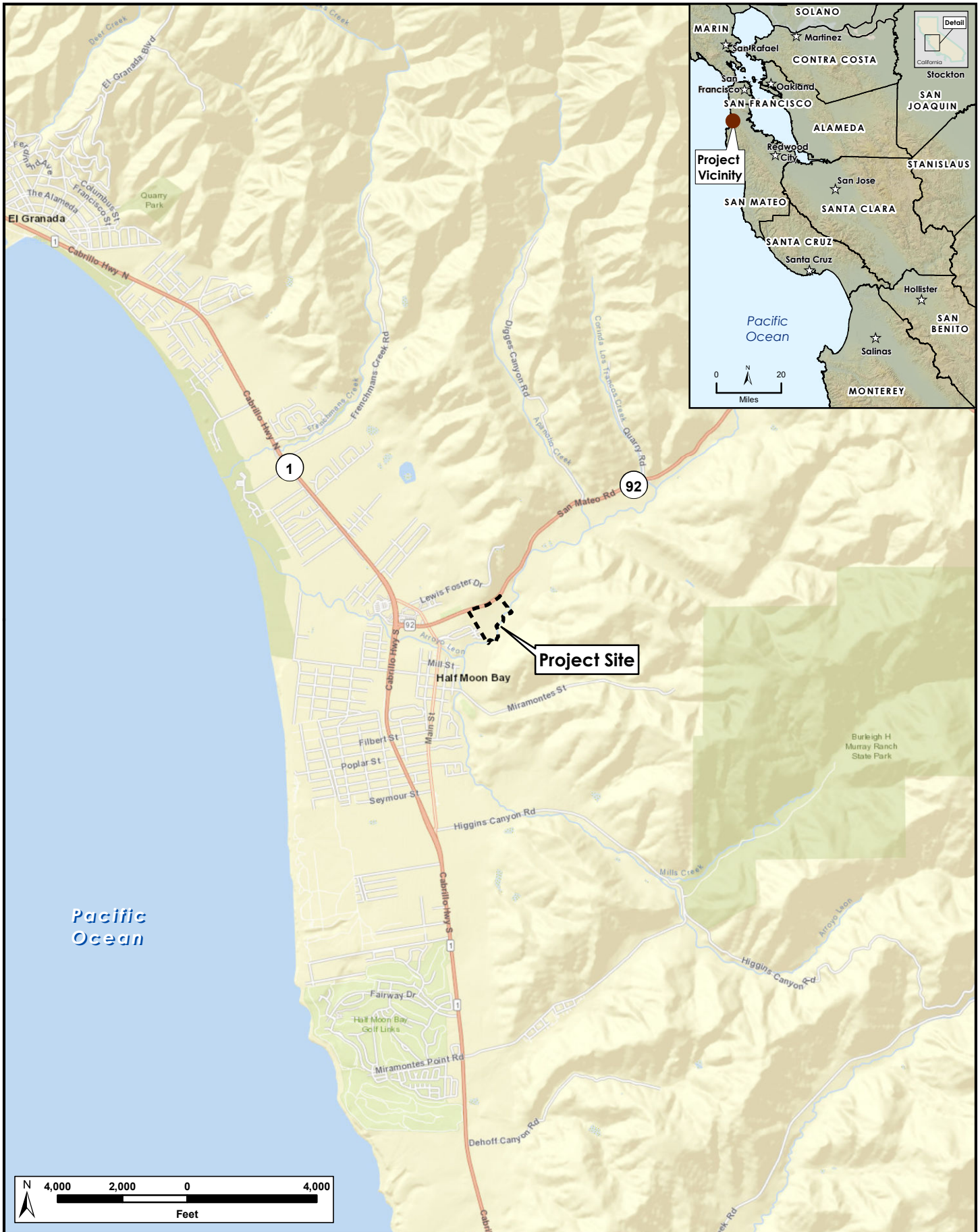
**Table 1. Soils within the Biological Study Area**

<b>Soil Series</b>	<b>Acreage</b>	<b>Hydric</b>
Farallone loam, nearly level (FaA)	8.8	Yes
Tierra loam, steep, severely eroded (TeE3)	3.1	No
Farallone coarse sandy loam, moderately steep, eroded (FcD2)	4.5	No
Gazos and Lobitos soils, steep and very steep, severely eroded (GoF3)	1.3	No
Gullied land (alluvial soil material; Gu)	1.7	Yes
Tierra loam, sloping, eroded (TeC2)	1.1	Yes
Gullied land (Gazos-Lobitos soil material; Gv)	0.7	Yes
Tierra clay loam, moderately steep, eroded (TcD2)	0.1	No

The U.S. Fish and Wildlife Service’s National Wetlands Inventory (NWI) map of the study area is depicted in Figure 5. The NWI identified one feature in the study area, Pilarcitos Creek, which it classified as a palustrine, forest, seasonally flooded wetland (FPOC) (NWI 2020). NWI maps are based on interpretation of aerial photography, limited verification of mapped units, and/or classification of wetland types using the classification system developed by Cowardin et al. (1979). These wetland data are available for general reference purposes and do not necessarily correspond to jurisdictional waters.

## 1.2 Survey Purpose

H. T. Harvey & Associates surveyed the study area for features that may meet the physical criteria and regulatory definition of “waters of the United States” and waters of the state (jurisdictional waters). The purpose of the field survey was to identify the extent and distribution of potentially jurisdictional waters, such as wetlands and other waters, occurring within the proposed work area boundaries under conditions existing at the time of the June 2020 survey. In addition, we surveyed the study area to determine the extent of areas likely subject to regulation by the California Coastal Commission (CCC), and for features that meet the criteria for regulation by the California Department of Fish and Wildlife (CDFW) under California Fish and Game Code Section 1603.



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**Figure 1. Vicinity Map**

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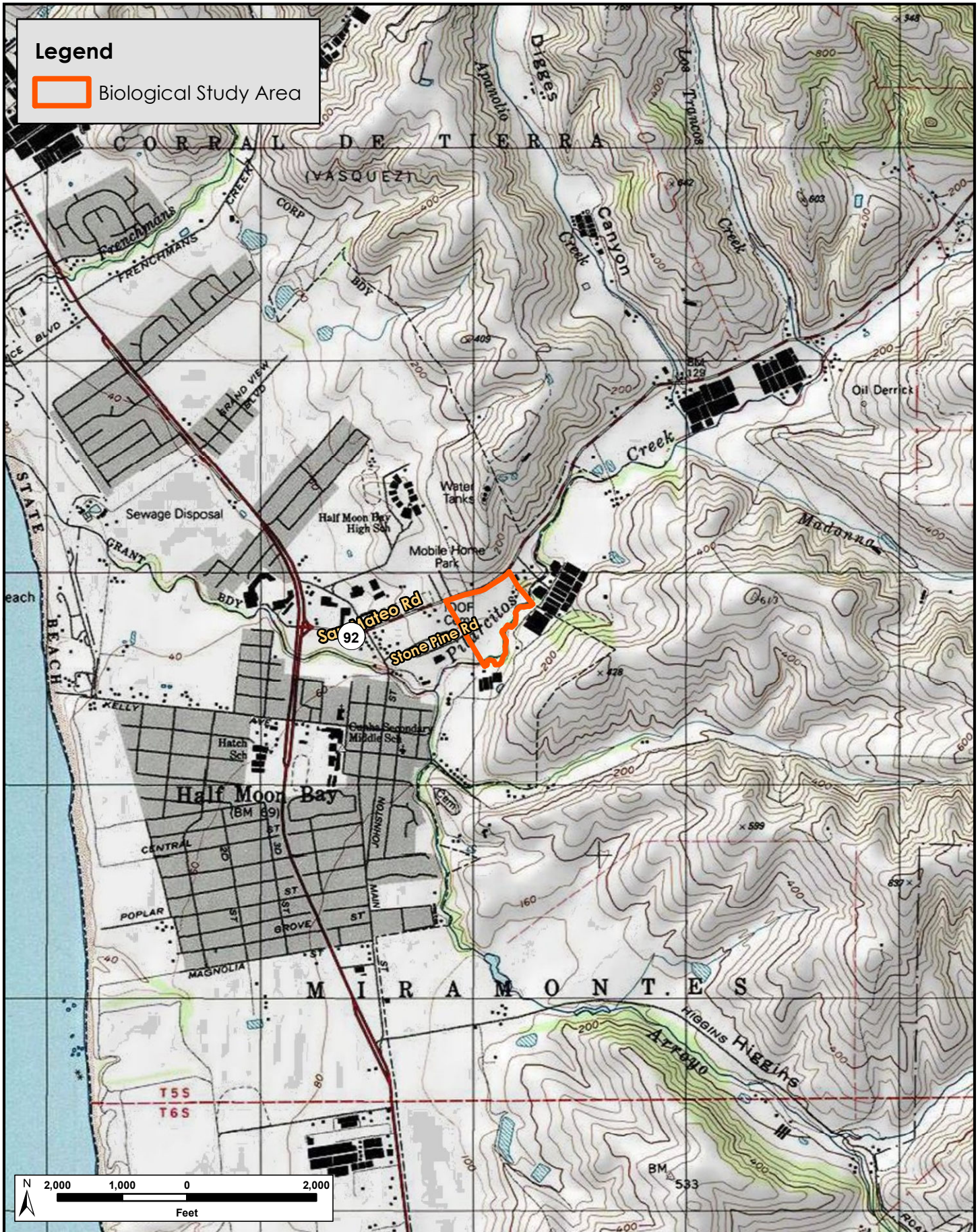


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**Figure 2. Study Area**

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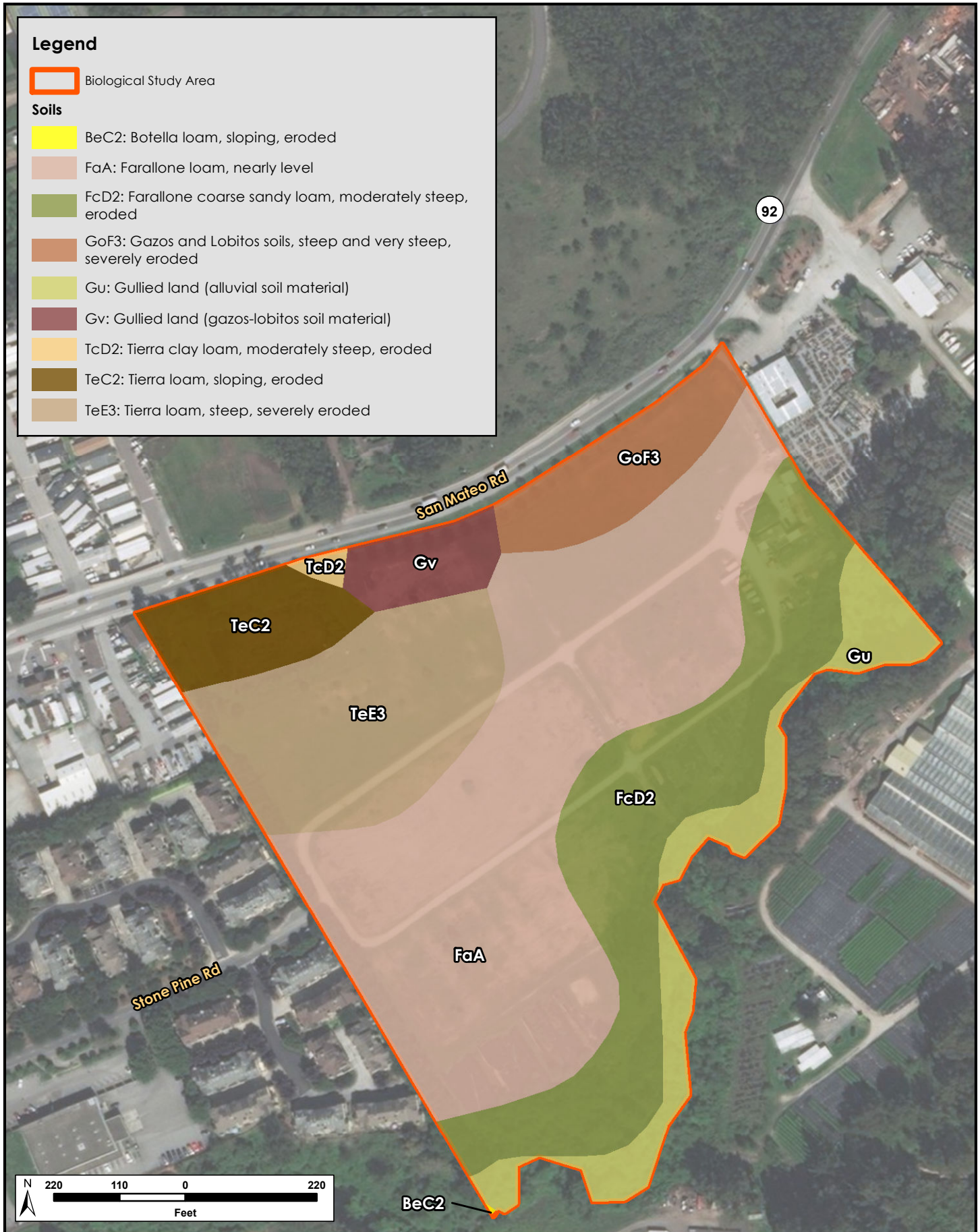
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**Figure 3. USGS Topographic Map**

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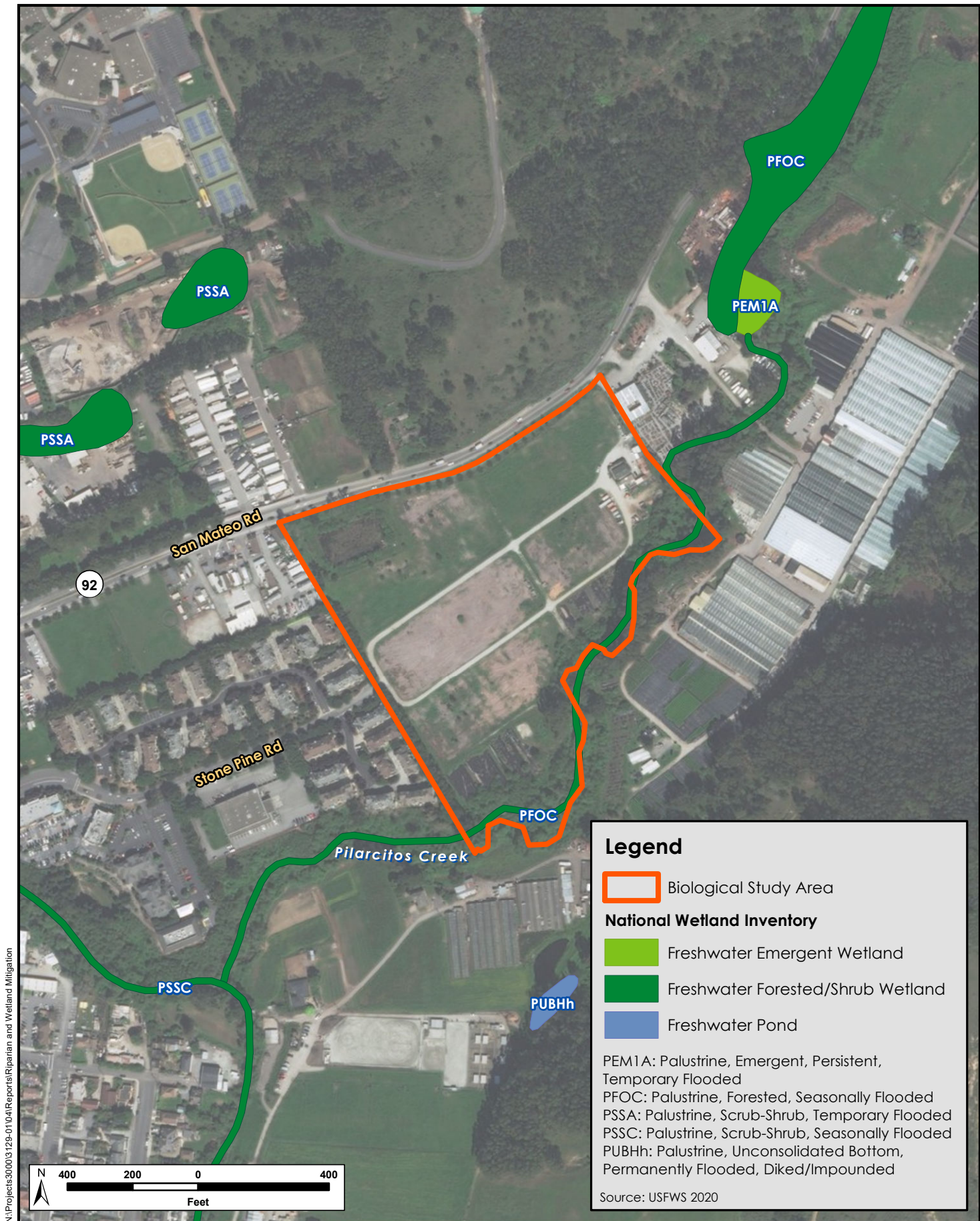
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**Figure 4. Soils Map**

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**Figure 5. NWI Map**

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## Section 2. Survey Methods

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Before the delineation survey was conducted, topographic maps and aerial photos of the study area were obtained and reviewed from several sources, such as the USGS (Figure 3), NRCS (Figure 4), NWI (Figure 5), and Google Earth software (Google 2020). Additionally, information was derived from surveys and background research conducted for the preparation of the 880 Stone Pine Road Project Biological Resources Report, concurrently prepared by H. T. Harvey & Associates (H. T. Harvey & Associates in prep).

On June 12, 2020, H. T. Harvey & Associates plant ecologist, Mark Bibbo, M.S., performed a technical delineation of wetlands and other waters in the study area, in accordance with the *Corps of Engineers 1987 Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987). Additionally, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Regional Supplement) (USACE 2010) were followed to document site conditions relative to hydrophytic vegetation, hydric soils, and wetland hydrology. Mr. Bibbo mapped the extent and distribution of wetlands and other waters of the U.S. that may be subject to regulation under Section 404 of the Clean Water Act (CWA) as well as waters of the state that may be subject to regulation under the Porter Cologne Water Quality Control Act, which is administered by the RWQCB. The study area was also surveyed for areas that meet the physical criteria of a wetland according to the California Coastal Commission (CCC), as well as aquatic and riparian habitat that may be subject to regulation under Sections 1600-1607 of the California Fish and Game Code, which is administered by CDFW.

### 2.1 Identification of Jurisdictional Waters

The “Routine Determination Method, On-Site Inspection Necessary (Section D)” outlined in the Corps Manual (Environmental Laboratory 1987), and the updated data forms, vegetation sampling methods, and hydric soil and hydrology indicators developed for the Regional Supplement (USACE 2010) were used to examine the vegetation, soils, and hydrology in the accessible areas of the study area. This three-parameter approach to identifying wetlands is based on the presence of a prevalence or dominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

In addition to applying these survey methods, Mr. Bibbo compiled this report in accordance with guidance provided in *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a) and *Information Requested for Verification of Corps Jurisdiction* (USACE 2016b). These documents list the information that must be submitted as part of a request for a jurisdictional determination, including:

- Locality map (Figure 1)
- Study area map (Figure 2)
- USGS quadrangle sheet (Figure 3)

- Soils map (Figure 4)
- National Wetlands Inventory map (Figure 5)
- Vegetation communities map (Figure 6)
- Delineation map (Figure 7)
- Current soil survey report (Appendix A)
- Plant species observed (Appendix B)
- Data forms for wetlands sample points (Appendix C)
- Written rationale for sample point choice (Section 3.1, “Observations, Rationales, and Assumptions”)
- Color photos (Appendix D)
- Aquatic resources table (Appendix E)
- Signed statement from the property owner(s) allowing USACE personnel to enter the property and collect samples during normal business hours (Appendix F).

During the survey, the study area was examined for topographic features, drainages, alterations to site hydrology or vegetation, and recent significant disturbance. A determination was then made as to whether normal environmental conditions were present at the time of the field survey. In the field, the techniques used to identify wetlands included digging soil pits to sample soil from various depths, observing the vegetation growing near the soil sample points, and characterizing the current surface and subsurface hydrologic features present near the sample points. Features meeting wetland vegetation, soil, and hydrology criteria were then mapped in the field using a Trimble GeoXT™ GPS unit capable of submeter accuracy.

## 2.2 Identification of Section 404 Potential Jurisdictional Wetlands (Special Aquatic Sites)

Where wetland field characteristics were present, Mr. Bibbo examined vegetation, soils, and hydrology using the Routine Determination Method outlined in the Corps Manual (Environmental Laboratory 1987) and the updated data forms, vegetation sampling methods, and hydric soil and hydrology indicators developed for the Regional Supplement (USACE 2010).

**Vegetation.** Plants observed at each of the sample sites were identified to species, where possible, using *The Jepson Manual, Vascular Plants of California, Second Edition* (Baldwin et al. 2012). The wetland indicator status of each species was obtained from the *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* (Lichvar et al. 2016). Wetland indicator species are designated according to their frequency of occurrence in wetlands. For instance, a species which is usually a hydrophyte, but occasionally found in uplands is designated a





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**Figure 6. Vegetation Communities and Photo Points Map**  
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facultative wetland indicator species. The wetland indicator groups, indicator symbol, and the qualitative frequency of occurrence of species within wetlands are shown in Table 2.

**Table 2. Wetland Indicator Status Categories for Vascular Plants**

Indicator Category	Symbol	Ecological Description <sup>1</sup>
Obligate	OBL	Almost always a hydrophyte, rarely in uplands
Facultative wetland	FACW	Usually is a hydrophyte, but occasionally found in uplands
Facultative	FAC	Commonly occurs as either a hydrophyte or nonhydrophyte
Facultative upland	FACU	Occasionally is a hydrophyte, but usually occurs in uplands
Upland <sup>2</sup>	UPL	Rarely is a hydrophyte, almost always in uplands

<sup>1</sup> Based on the National Wetland Plant List Indicator Rating Definitions (Lichvar et al 2016)

<sup>2</sup> Plant species that are not listed in the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016) are considered UPL species

Obligate and facultative wetland indicator species are hydrophytes that occur “in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present” (Environmental Laboratory 1987). Facultative indicator species may be considered wetland indicators when found growing in hydric soils that experience periodic saturation. Plant species that are not on the regional list of wetland indicator species are considered upland species. A complete list of the vascular plants observed in the study area, including their current indicator status, is provided in Appendix B.

**Hydric Soils.** Up to 20 inches of the soil profile were examined for hydric soil indicators. The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as one formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper 12 inches of soil (NRCS 2010). Hydric soils include soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. In general, evidence of a hydric soil includes characteristics such as organic soils (histosols), reducing soil conditions, gleyed soils, soils with bright mottles and/or low matrix chroma, soils listed as hydric by the U.S. Department of Agriculture (USDA) on the National Hydric Soils List (NRCS 2020), and iron and manganese concretions. Reducing soil conditions can also include circumstances where there is evidence of frequent ponding for long or very long duration. A long duration is defined as a period of inundation for a single event that ranges from seven (7) days to a month and a very long duration is greater than one month (Environmental Laboratory 1987).

Munsell Soil Notations (Munsell 2009) were recorded for the soil matrix of each soil sample. The Munsell color system is based on three color properties: hue, value, and chroma. A brief description of each component of the system is described below, in the order they are used in describing soil color (i.e., hue/value/chroma):

1. **Hue.** The Munsell Soil Color Chart is divided into five principal hues: yellow (Y), green (G), purple (P), blue (B), and red (R), along with intermediate hues such as yellow-red (YR) and green-yellow (GY). Example of commonly encountered hue numbers include 2.5YR, 10YR, and 5Y.
2. **Value.** *Value* refers to lightness, ranging from white to grey to black. Common numerical values for value in the Munsell Soil Color Chart range from 2 for saturated soils to 8 for faded or light colors. Hydric soils often show low-value colors when soils have accumulated sufficient organic material to indicate development under wetland conditions, but can show high-value colors when iron depletion has occurred, removing color value from the soil matrix. Value numbers are commonly reported as 8/, 2.5/, and 6/.
3. **Chroma.** *Chroma* describes the purity of the color, from “true” or “pure” colors to “pastel” or “washed out” colors. Chromas commonly range from 1 to 8, but can be higher for gleys. Soil matrix chroma values that are 1 or less, or 2 or less when mottling is present, are typical of soils that have developed under anaerobic conditions. Chroma numbers are listed, for example, as /1, /5, and /8.

The NRCS Web Soil Survey (NRCS 2020a) was consulted to determine which soil types have been mapped in the study area (Table 1, Figure 4). Detailed descriptions of these soil types are provided in Appendix A.

**Wetland Hydrology.** Wetland hydrology is defined as an area that is inundated either permanently or periodically at mean water depths less than 6.6 feet, or where the soil is saturated at the surface at some time during the growing season of the prevalent vegetation. The period of inundation or soil saturation varies according to the hydrologic/soil moisture regime and occurs in both tidal and non-tidal situations.

Wetland hydrology encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Wetland hydrology indicators provide evidence that the site has a continuing wetland hydrologic regime. Primary indicators might include visual observation of surface water (A1), high water table (A2), soil saturation (B1), water-stained leaves (B9), and hydrogen sulfide odor (C1). Secondary indicators might include riverine drift deposits (B3), drainage patterns (B10), and passing score for the FAC-neutral test (D5). Each of the sample points was examined for positive field indicators (primary and secondary) of wetland hydrology, following the guidance provided in the Regional Supplement.

## 2.3 Identification of Section 404 Jurisdictional Other Waters

“Other waters”, which includes lakes, slough channels, seasonal ponds, tributary waters, non-wetland linear drainages, and salt ponds were also mapped within the study area. Such areas are identified by the (seasonal or perennial) presence of standing or running water and generally lack hydrophytic vegetation. In non-tidal or muted tidal waters, such as this site, USACE jurisdiction extends to the OHWM which is defined in 33 CFR Part 328.3 as “the line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris.” In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line (HTL)

(see 33 CFR, Part 328.4). The HTL is defined in 33 CFR, Part 328.3 as “the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The HTL may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gauges, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other tides that occur with periodic frequency, but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.”

## 2.4 Identification of Coastal Zone Wetlands within CCC Jurisdiction

The project area were also surveyed for areas that meet the physical criteria of a wetland according to the California Coastal Commission (CCC). Under the California Coastal Act, the CCC regulates development in the coastal zone, including land and water use. Wetlands found in the coastal zone are regulated under the California Coastal Act of 1976 (CCA) and the federal Coastal Zone Management Act (CZMA), and are within jurisdiction of the CCC (CCC 2008). Any activities within the coastal zone that affect aquatic resources, including wetlands, require a coastal development permit from either the CCC or a certified Local Coastal Program (LCP) (Division 20 of the Public Resources Code). The CCC is responsible for protecting coastal resources and assessing potential impacts on wetlands and other waters subject to regulation under the California Coastal Act (Pub. Res. Code §30330-30344).

Under the CCA, wetlands are defined as “Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens.” (Pub. Res. Code §30121). The CCC uses definitions similar to the federal government in defining wetland habitat. The U.S. Fish and Wildlife Service (USFWS) uses a general definition from its wetlands classification system first published in 1979:

*Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water (Cowardin, et al. 1979). For purposes of this classification, wetlands must have 1 or more of the following 3 attributes: “(1) at least periodically, the land supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year” (Cowardin, 1979). The USFWS definition includes, swamps; freshwater, brackish water, and saltwater marshes; bogs; vernal pools, periodically inundated saltflats; intertidal mudflats; wet meadows; wet pastures; springs and seeps; portions of lakes, ponds, rivers and streams; and all other areas which are periodically or permanently covered by shallow water, or dominated by hydrophytic vegetation, or in which the soils are predominantly hydric in nature.*

For purposes of implementing Section 404 of the federal Clean Water Act, the United States Environmental Protection Agency (EPA) and the USACE define wetlands as:

*Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (40 CFR 232.2).*

Both the CCC and the federal government (in the USFWS and the USACE) provide further specificity in their wetlands definitions to guide the process of wetlands delineation. The CCC's regulations (California Code of Regulations Title 14 (14 CCR)) establish a **“one parameter definition”** that only requires evidence of a single parameter to establish wetland conditions and accepts wetland determinations based on the presence of one parameter—wetland vegetation, wetland soils, or, under certain conditions, wetland hydrology (using the criteria described above, under the USACE methods, for each parameter), similar to the USFWS wetlands classification system:

*Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats.*

In contrast, the USACE generally uses a **three parameter definition** for delineating wetlands. In the California coastal zone, the CCC, with the assistance of the California Department of Fish and Wildlife (CDFW), is responsible for determining the presence of wetlands subject to regulation under the CCA. The local government also has a direct role in the identification and delineation process in areas with a certified LCP. For wetland development projects requiring USACE review, the applicant may, in some cases, need to obtain two delineation approvals, one for the coastal development permit, and another for the USACE Section 404 permit (CCC 2008).

The CCC delineation of wetlands in the field typically requires substantial evidence of indicators that can be easily observed or assayed. Wetlands typically occur on physical gradients (i.e., wet to dry conditions, hydric to non-hydric soils, and hydrophytic to meso/xerophytic vegetation). Delineations document boundaries between a predominance of hydrophytic vegetation and upland vegetation and boundaries between hydric and non-hydric soils. Because wetland delineation is not an exact science, the CCC recognizes the importance of professional judgement:

*Some wetlands may not be readily identifiable by simple means. In such cases, the CCC will also rely on the presence of hydrophytes and/or the presence of hydric soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal*

*Act, but they are not the sole criteria. In some cases, proper identification of wetlands will require the skills of a qualified professional.*

Resource and regulatory agencies have found it difficult to strictly define some wetlands because of the often transient hydrology, the absence of hydric soils, and the heterogeneous vegetation composition. Yet these areas exhibit many of the functions and values found in other wetlands. In the past, CCC staff has recognized some of these areas, including riparian areas, as “environmentally sensitive areas” within the meaning of Coastal Act §30107.5, and then regulated development through §30240. The semi-arid climate of California also presents problems for the identification and delineation of wetlands. Some wetlands in this part of California can remain dry for one or more seasons because of the Mediterranean climate typical of the state.

The CCC’s regulations acknowledge these distinctions by specifying some general decision rules for establishing the upland boundary of wetlands:

*...the upland limit of a wetland shall be defined as:*

- a. the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover;*
- b. the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or*
- c. in the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not (14 CCR Section 13577).*

Therefore, additional scientific methods and guidance are required to facilitate the wetland delineation process in the field. A common source of guidance for wetland delineators is the *1987 USACE Wetland Delineation Manual* and the *Regional Supplement*. Another important guidance document is the USFWS’s *List of Plant Species that Occur in Wetlands*. Similarly, guidance on the identification of hydric soils is provided by the Natural Resource Conservation Service in its *Field Indicators of Hydric Soils in the United States* (2010).

In a CCC delineation, the extent of both hydric soils and wetland vegetation should be determined and the wetland boundary drawn to coincide with that parameter that results in the larger wetland area. Where the presence of wetlands is difficult to determine because some field indicators appear ambiguous or unreliable, the CCC has occasionally, in past actions, considered strong evidence of upland conditions in making its wetland determination. However, the CCC has not considered the simple absence of standard field indicators of either hydric soils or wetland hydrology to be strong evidence of upland conditions and, hence, evidence that wetland conditions do not exist. Showing strong evidence of upland conditions requires collecting field data during the rainy season to determine whether the site evaluated becomes inundated or not or whether the major portion of the root zone of the predominant vegetation becomes saturated for greater than seven continuous days or not. This information can then be used to determine if the previously assessed vegetation or soil field indicator found to be ambiguous or unreliable is indicative of wetland or upland conditions.



Prior to conducting fieldwork, H. T. Harvey & Associates reviewed a variety of pertinent technical documents. During the CCC delineation, the presence and frequency of hydrophytic vegetation, hydrology indicators, and hydric soil indicators (or lack thereof) were used as the primary indicators for identifying potential wetland areas.

## 2.5 Identification of Waters of the State

The Porter Cologne Water Quality Control Act (Porter-Cologne) broadly defines waters of the state as “any surface water or groundwater, including saline waters, within the boundaries of the state.” Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California’s jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that “shallow” waters of the state include headwaters, wetlands, and riparian areas. Where forested riparian habitat is not present, jurisdiction is taken to the top of bank or levee. Where forested habitat occurs, the outer canopy of any riparian trees rooted within top of bank may be considered jurisdictional as these trees can provide allochthonous input to the channel below.

On April 2, 2019, the California State Water Resources Control Board (SWRCB) adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

The 2019 Procedures also clarify that wetland-upland boundaries for wetlands comprising waters of the state should be set using the USACE delineation framework (Environmental Laboratory 1987, USACE 2010), with one important distinction. Some areas in California function as wetlands despite lacking abundant wetland vegetation. For example, non-vegetated playas, tidal flats, and some types of seasonal wetlands provide a variety of wetland functions, including water filtration, groundwater recharge, and the support of wetland wildlife. While USACE procedures require 5% vegetative cover to be considered a wetland rather than “other waters”, the RWQCB has determined that no such minimum vegetative cover is necessary for an area to be considered a wetland under the State Wetland Definition. Waters of the state were identified within the study area.

## 2.6 Identification of CDFW Jurisdiction

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under California Department of Fish and Wildlife (CDFW) jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A stream is defined in Title 14, California Code of Regulations §1.72, as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. Jurisdiction

does not include tidal areas such as tidal sloughs unless there is freshwater input. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as a part of a watercourse. California Fish and Game Code §2786 defines riparian habitat as “lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source.” The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, CDFW would claim jurisdiction over a stream’s bed and bank. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats. CDFW jurisdictional habitats were mapped within the study area.

## Section 3. Survey Results and Discussion

The following vegetation communities and land cover types were mapped in the study area: (1) aquatic riverine (Pilarcitos Creek), (2) perennial freshwater wetland, (3) Willow/alder stands (one parameter CCC wetland), (4) California annual grassland, (5) mixed riparian woodland, and (6) developed (Figure 6). Ten sample points (SPs) were examined to identify jurisdictional features (Figure 7; Appendix C). In the study area, approximately 3.77 ac of potentially jurisdictional waters regulated by USACE, RWQCB, CDFW, and the CCC were identified (Table 3). The results of the June 2020 delineation are described below.

**Table 3. Summary of Jurisdictional Waters and Habitats within the Study Area**

Potentially Jurisdictional Habitats	Study Area (Acres) <sup>1</sup>
<b>Section 404 Waters of the U.S. Total</b>	<b>0.67</b>
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
<b>Section 401 Waters of the State (Up to Top of Bank) Total</b>	<b>0.91</b>
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland (within top of bank)	0.24
<b>CDFW and CCC Jurisdiction Total</b>	<b>3.52</b>
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland	2.85

Note: Values are approximate due to rounding.

**Study Area.** Approximately 0.91 ac of Section 404 and Section 401 waters, including wetlands are found in the study area (Figure 7; Appendix D, Photos 2, 6).

Waters of the state (Section 401 waters only) extend to the top of bank of Pilarcitos Creek in the study area and includes approximately 0.24 ac of riparian habitat (Figure 8; Appendix D, Photos 1 and 3 in Appendix D)..

Pilarcitos Creek is a perennial drainage following from headwaters on Montara Mountain east of the study area to the Pacific Ocean west of the study area. As such, this feature would be regulated by CDFW under California Fish and Game Code Section 1603. Approximately 0.38 acres of freshwater wetland, 0.26 ac of streambed and approximately 2.85 ac of associated riparian woodland that would be regulated by CDFW occur within the study area (Figure 9). Areas falling within CCC jurisdiction include those same 3.52 total acres (Figure 9).

Information assembled during this investigation and pertinent to the identification of jurisdictional wetlands and other waters is presented in the six appendices of this report. In addition, Appendix E provided at the end of this document is an electronic attachment in Microsoft Excel format, per USACE (2016b) guidelines.

- Appendix A—Custom Soil Report for Project Study Area
- Appendix B—Plants Observed in the Study Area
- Appendix C—Western Mountains, Valley, and Coast Wetland Determination Data Forms
- Appendix D—Photographic Documentation of the Study Area
- Appendix E—Aquatic Resources Table
- Appendix F—Signed Statement from the Property Owner Allowing Access

### **3.1 Observations, Rationale, and Assumptions**

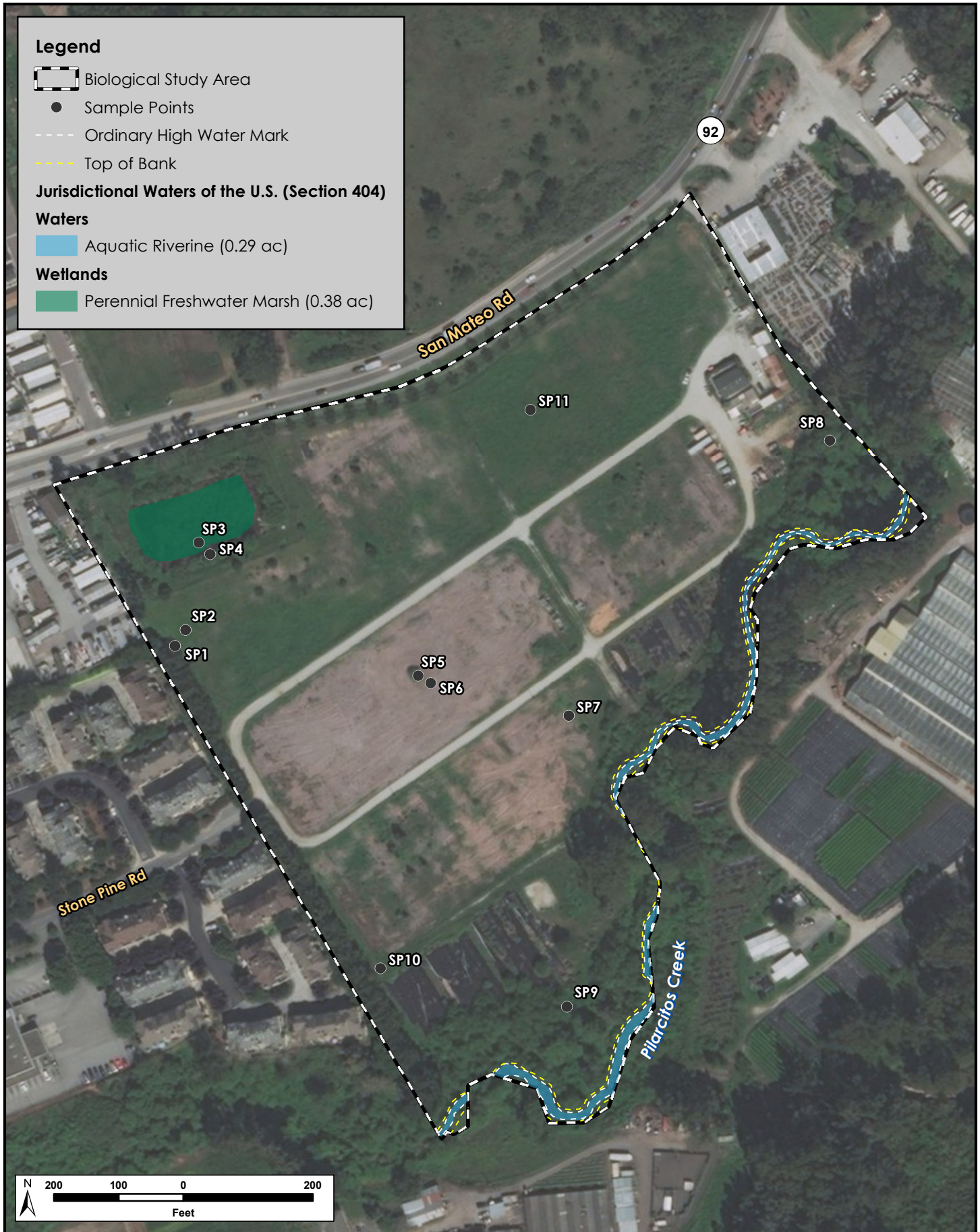
Study area conditions observed during the delineation survey are reported here, along with pertinent background information and precipitation data.

#### **3.1.1 Background Information**

This preliminary delineation assumes that normal circumstances prevailed at the time of the June 2020 survey, and results are based upon the conditions present. The survey was performed using the “Routine Method of Determination” using three parameters, as outlined in the Regional Supplement, although areas meeting at least one parameter were delineated as CCC-jurisdictional wetlands. All features that were noted as potential USACE-jurisdictional wetlands or other waters are also considered potential CCC-jurisdictional wetlands because they possess at least one parameter for a CCC-jurisdictional wetland.

Land use surrounding the study area consists of agriculture to the east and south, open space to the north and south, suburban residential to the west, and commercial to the east.





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**Legend**

- Biological Study Area
- Sample Points
- Ordinary High Water Mark
- Top of Bank

**Jurisdictional Waters of the U.S. (Section 404)**

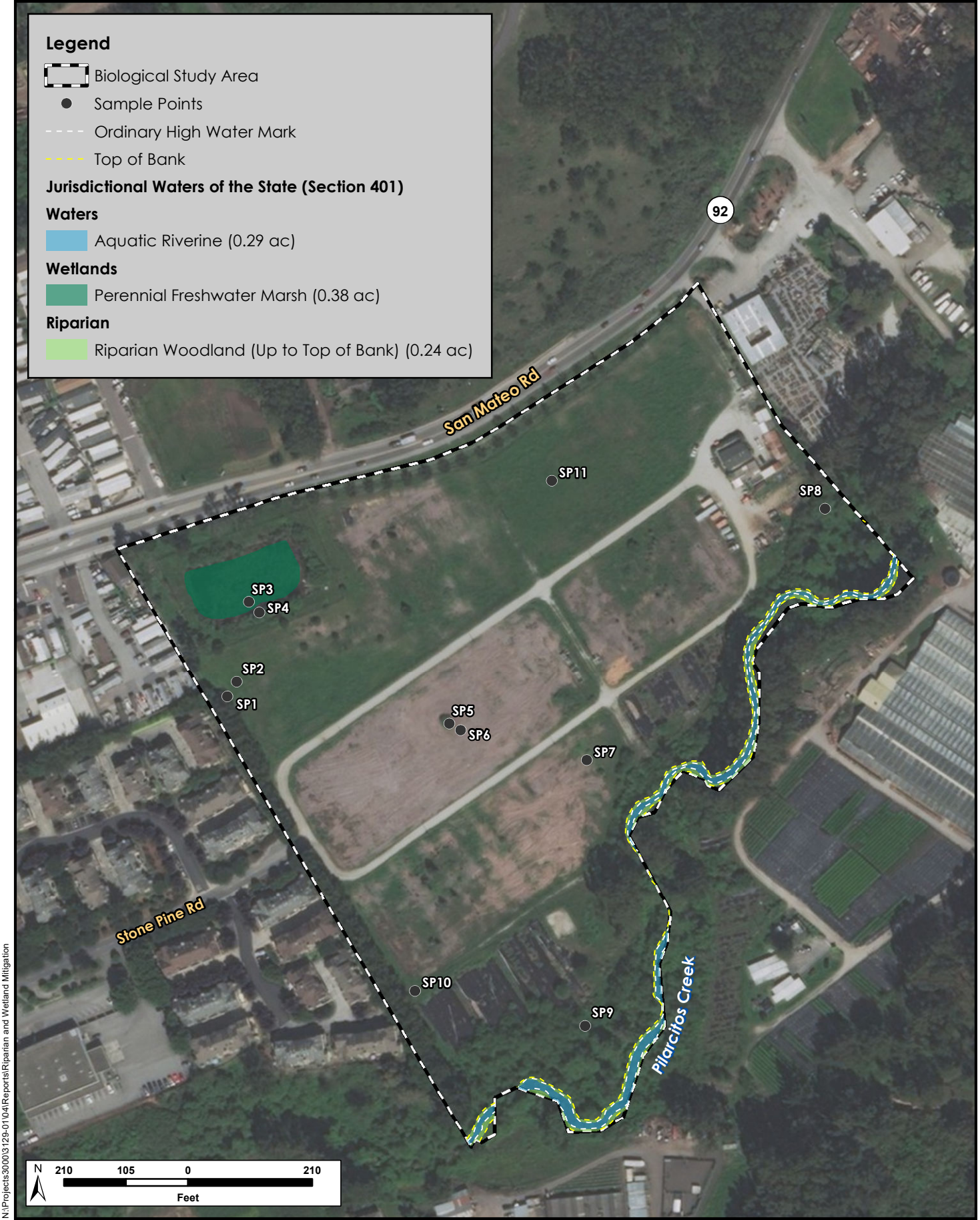
**Waters**

Aquatic Riverine (0.29 ac)

**Wetlands**

Perennial Freshwater Marsh (0.38 ac)





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**H. T. HARVEY & ASSOCIATES**  
Ecological Consultants

**Figure 8. Preliminary Identification of Waters of the State**  
880 Stone Pine Road Project, Wetland Delineation Report (4182-03)  
October 2020





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**H. T. HARVEY & ASSOCIATES**

Ecological Consultants

**Figure 9. CDFW/CCC Jurisdictional Habitats**

880 Stone Pine Road Project, Wetland Delineation Report (4182-03)

October 2020

### 3.1.2 Precipitation Data

The survey took place in the 2020 dry season. Relative to the 30-year climate normal, precipitation in the study area was below average for the twelve month period leading up to the delineation. Total precipitation recorded for the twelve months prior to the delineation was 15.99 in., which is approximately 55% of the 30-year average (1981–2010) (PRISM 2020). These conditions were taken into account when assessing the biotic habitats present on the site. Despite the below average precipitation, water was still flowing in Pilarcitos Creek, and the abandoned stock pond was still inundated and surface water was present. The boundaries of wetlands remained clear owing to the presence of hydrophytic vegetation and hydrology indicators.

### 3.1.3 Site Conditions and Observations

Several areas containing at least one parameter indicative of wetlands, but lacking one or more parameters (*i.e.*, CCC wetlands not claimed by the USACE), were detected within the study area.

The southern boundary of the study area is demarcated by Pilarcitos Creek, a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains through Pilarcitos Canyon and discharges into the Pacific Ocean. The creek drains approximately 30 square mi and has numerous tributaries. The study area is approximately 1.7 mi upstream from the mouth of the Creek at the Pacific Ocean. Pilarcitos Creek has a well-developed riparian corridor for much of its length upstream and downstream of the study area. Pilarcitos Creek and its riparian corridor fall within the jurisdiction of the USACE, RWQCB, CDFW, and the CCC (Figures 7–10).

The study area is located in the Arroyo Leon hydrologic unit (180500060201) within the San Francisco Coastal South Sub Region of the California Region.

The majority of site was previously in agricultural nursery production. A man-made impoundment and several buildings occur in the northwest corner and northeast corners of the site, respectively. Additionally, there is still infrastructure present from former nursery operations, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete channels, and irrigation pumps and pipes. Areas of the site that are currently in ruderal grassland appear to be regularly mowed to keep vegetation low for fire prevention. At the time of the June 2020 survey, the site was beginning to be mowed for the first time that season. Also, sections of the grassland were covered in wood chips. As such, the ground cloths and mulch inhibit vegetation growth.

The manmade impoundment in the northwest corner of the study area is approximately 200 ft by 110 ft. The impoundment is a raised earthen embankment design and sits at an elevation of 114 ft (WGS84). Water was previously pumped into this impoundment from Pilarcitos Creek to be used by the nursery for its operations (H. T. Harvey & Associates and RMC 2010). The pump appears to be currently inactive. However, the impoundment continues to hold water and extensive emergent vegetation and is classified as perennial

freshwater marsh habitat, indicating that the pond as it was excavated may have some connection to groundwater. At the time of the June 2020 survey, there was no evidence of flow from the pond.

Within the ruderal grassland, there are willow-alder stands characterized by individual or small stands of arroyo willows (*Salix lasiolepis*, FACW) and red alder (*Alnus rubra*, FACW, Appendix D, Photo 3). These species generally do not require the soil to be inundated to persist, but they generally do require access to a permanent water source, such as a creek or high groundwater, which they can access with deep roots. This also indicates that in at least some areas of the parcel in some years, the upper soil profile was moist enough to allow recruitment of these typically riparian tree species. Based on an analysis of historical aerials in Google Earth, the clumps of trees appear to be less than 10 years old, and sprouted and grew following the abandonment of nursery activities on the site (Google, Inc. 2020), possibly with assistance from artificial hydrology from irrigation in the last years of the nursery. These two tree species are functional phreatophytes, meaning that they are woody perennials with a deep taproot that are able to access deeper groundwater. They may have germinated and established in a wet year or assisted by irrigation overspray, and have been able to persist due to their deep taproot. Again, these trees occur on upland terraces that were previously cultivated for agriculture and are spatially separated from the riparian corridor along Pilarcitos Creek. We do not believe that this entire area truly stays saturated for a substantial portion of the growing season each year, as the site lacks hydric soil and hydrology indicators. Despite the fact that both arroyo willow and red willow have a wetland indicator status (FACW), we feel that in this situation these trees are indicators of a high groundwater table, as opposed to wetland conditions, or presence of a riparian corridor. Therefore we do not consider these patches of trees to be CCC jurisdictional wetlands.

There were areas within the California annual grassland, primarily along the western edge of the study area that supported dense monotypic stands of poison hemlock (*Conium maculatum*, FAC) (SP7 and SP10, Appendix C; Photo 4, Appendix D), indicative of disturbance and infestation. Both these areas were portions of the study area that had previously been in nursery production. The soils at the sample points were similar to nearby upland soils, with low chroma and low value soil colors throughout the soil profile (10 YR 3/2 or 3/3). Soils were dry and no hydric soil indicators were observed at either sample point. Additionally, no indicators of hydrology were observed in association with these stands of poison hemlock.

Poison hemlock is adapted to grow as a hydrophyte or non-hydrophyte depending on environmental conditions and is classified as an invasive plant by the California Invasive Plant Council (Cal-IPC 2020). It is tolerant of a wide range of moisture conditions including habitats with hydric, mesic (damp or moist soils that are not hydric), or even mildly xeric (dry) soils. Poison hemlock is a serious weed that is capable of rapid establishment, particularly on disturbed sites or where little vegetation exists at the start of the growing season. Once it is firmly established under such conditions, it can prevent the growth of most other vegetation. The soils within the project area are disturbed, based on the historical use of the area for agriculture and the presence of non-native vegetation, and as previously stated do not exhibit evidence of being hydric. The occurrence of poison hemlock is most likely in response to the highly disturbed soils found within the project area; therefore, it is not a strong wetland indicator in this situation because it is growing as a non-hydrophyte. It is our professional



opinion that these areas are not functioning as wetlands and should not be mapped as one-parameter CCC wetlands due to the lack of hydric soils, hydrology, and poison hemlock not growing as a hydrophyte.

### 3.1.4 Rationale for Sample Point Choice

Ten sample points were selected to document conditions in representative jurisdictional and non-jurisdictional areas (Figure 7, Appendix C). Rationale and findings for wetland data form sample point locations are summarized in Table 4.

**Table 4. Summary of Sample Point Locations and Results**

Name	Sampling Rationale	Hydrophytic Vegetation?	Hydric Soil?	Wetland Hydrology?	Overall Wetland Assessment
SP1	Placed to examine abandoned agricultural ditch.	Yes	No	No	Upland position; this area does not meet the three parameter wetland criteria. The wetland vegetation observed is FAC-dominated and weedy.
SP2	Placed to examine the hillslope adjacent the ditch – upland position.	No	No	No	Upland position; this area does not meet the three parameter wetland criteria.
SP3	Emergent freshwater marsh in an abandoned (but still inundated) agricultural pond – FM1.	Yes	Yes	Yes	This area is a three parameter wetland.
SP4	Upland paired point to SP4.	Yes	No	No	Upland; this area does not meet the three parameter. Hydrophytic vegetation is riparian vegetation dominated by Arroyo willow.
SP5	Placed to examine the willow/alder stands that occur throughout the site.	Yes	No	No	These small stands do not meet the three parameter USACE wetland criteria, hydric soils and wetland hydrology not present, presence of these trees does not necessarily indicate wetland conditions.
SP6	Upland paired point to SP5.	No	No	No	This area does not meet the three parameter wetland criteria.
SP7	Placed to examine poison hemlock infestation on terrace in southern portion of property.	Yes	No	No	Upland; this area does not meet the three parameter wetland criteria. The wetland vegetation observed is FAC-dominated and weedy.
SP8	Placed to investigate the riparian corridor of Pilarcitos Creek	Yes	No	No	This area does not meet the three parameter wetland criteria.



Name	Sampling Rationale	Hydrophytic Vegetation?	Hydric Soil?	Wetland Hydrology?	Overall Wetland Assessment
SP9	Placed to investigate the riparian corridor of Pilarcitos Creek in southwest corner of property.	Yes	No	No	Upland; this area does not meet the three parameter wetland criteria.
SP10	Placed to investigate area of poison hemlock infestation on terrace in southern portion of property.	Yes	No	No	Upland; this area does not meet the three parameter wetland criteria. The wetland vegetation observed is FAC-dominated and weedy.
SP11	Placed in upland grassland in the northeastern corner of the property.	No	No	No	Upland position; this area does not meet the three parameter wetland criteria.

OHW-1 was placed perpendicular to Pilarcitos Creek (R-1) in the northeast corner of the wetland delineation study area (Appendix C; Appendix D, Photo 1). Pilarcitos Creek is a perennial creek with a well-defined OHWM that was identified by the observations of shelving, the clear presence of a bed and bank, and drift deposits.

### 3.1.5 Photo Points

Photo point labels, coordinates, and rationale for the photo are include in Table 4. Photos are included in Appendix D.

**Table 5. Coordinates and Rationale for Photo Points**

Label	Latitude	Longitude	Rationale
Photo 1	37.469261	-122.421798	Riparian habitat along Pilarcitos Creek
Photo 2	37.468813	-122.425454	Emergent freshwater marsh habitat around the abandoned agricultural pond
Photo 3	37.468319	-122.423926	Willow/Alder patches in the ruderal grassland matrix – SP5
Photo 4	37.468084	-122.423153	Portion of project area dominated by poison hemlock – SP7
Photo 5	37.469411	-122.423262	Upland grassland habitat typical of the site
Photo 6	37.467987	-122.422659	Pilarcitos Creek

## 3.2 Identification of Section 404 Waters

Approximately 0.29 ac of Section 404 waters were observed within the study area including the aquatic riverine habitat within the OHWM of Pilarcitos Creek (R1, Figure 7; Photo 6 in Appendix D) forming the eastern edge of study area. The extent of Section 404 waters was demarcated by the boundary formed by the OHWM.

Pilarcitos Creek is a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains through Pilarcitos Canyon and discharges into the Pacific Ocean approximately 1.7 mi downstream of the study area. Pilarcitos Creek is within the Arroyo Leon hydrologic unit (180500060201) within the San Francisco Coastal South Sub Region of the California Region. There is no tidal influence within Pilarcitos Creek in the study area.

### 3.3 Identification of Section 404 Potentially Jurisdictional Wetlands (Special Aquatic Sites)

In general, areas that were considered to be wetlands included solid stands of hydrophytes and/or areas observed to be ponded and/or saturated for long duration. Approximately 0.38 ac of potential USACE jurisdictional wetlands were identified in the study area (Figure 7). Three parameters identifying Section 404 wetlands were observed at one sample point (Figure 7; SP3, Appendix C). The feature that was determined to be a potentially USACE jurisdictional wetland is summarized below.

#### 3.3.1 Perennial Freshwater Marsh (FM1)

Approximately 0.38 ac of emergent perennial freshwater marsh was mapped within study area, occupying an abandoned agricultural pond (FM1, Figure 7; SP3, Appendix C; (Photo 2 in Appendix D)).

**Vegetation.** Dominant vegetation associated with the wetlands included hydrophytes such as common cattail (*Typha latifolia*, OBL), whorled marsh-pennywort (*Hydrocotyle verticillata*, OBL), duckweeds (*Lemna* spp., OBL), and mosquito fern (*Azolla filiculoides*, OBL).

**Soils.** The soils were assumed to be hydric since the sample point was under several inches of water and soils are inundated year round. In addition, a hydrogen sulfide smell was observed in a shallow pit dug on the edge of the marsh.

**Hydrology.** The hydrology indicator observed at this location was the presence of surface water. Based on the timing of the survey, it would appear that this agricultural pond supports year-round surface water. Inundation was observed in aerial photos from recent years in fall months (Google Inc. 2020).

### 3.4 Identification of Section 401 Waters of the State

The extent of Section 401 waters of the state (RWQCB jurisdiction) in the study area includes a total of 0.91 ac, including areas within Section 404 jurisdiction as described above and riparian habitat up to the top of the banks. In the field, the top of bank was determined by mapping the first significant topographic break in slope. Waters of the state include all waters of the U.S., and cover approximately 0.38 ac of open water, 0.29 ac of perennial marsh, and 0.24 ac of riparian habitat (Figure 8). Characteristics of waters of the state, including wetlands, are described above in Sections 3.2 and 3.3.

### 3.5 Identification of CDFW Jurisdiction

The study area contains a perennial stream (Pilarcitos Creek) with a defined bed and bed topography along with associated riparian habitat, as defined by CDFW (Figure 9; Photo 1 and 6 in Appendix D). Riparian habitat was mapped by the dripline of trees and the extent of riparian vegetation. Pond features were mapped by the top of bank (which can extend beyond the OHWM used to measure the extent of waters of the U.S.).

**Mixed Riparian Woodland.** Approximately 2.85 ac of riparian woodland habitat extends from the water's edge and up the bank of Pilarcitos Creek. This riparian corridor is wide, well-developed, and extends upstream and downstream of the wetland delineation study area along Pilarcitos Creek. In addition, because the centerline of the creek is roughly equivalent to the eastern edge of the parcel, the riparian corridor on the eastern bank of the creek extends outside of the study area. Dominant trees and shrubs observed include arroyo willow (*Salix lasiolepis*, FACW), red willow (*Salix laevigata*, FACW), and red alder (*Alnus rubra*, FACW). The understory is mostly composed of dense and overlapping layers of Himalayan blackberry (*Rubus armeniacus*, FAC), cape ivy (*Delairea odorata*, UPL), and English ivy (*Hedera helix*, FACU). Given the density of the shrub/vine understory, herbaceous vegetation is limited.

### 3.6 Areas Not Meeting the Regulatory Definition of Section 404 Wetlands and Waters/Coastal Zone Wetlands within CCC Jurisdiction

In general, areas that were not considered to be wetlands, were not dominated by hydrophytic vegetation, and did not exhibit hydrology indicators were considered uplands. Approximately 17.64 ac of the study area do not meet the regulatory definitions of jurisdictional waters or jurisdictional habitats (Figure 6). This includes the ruderal grassland and developed landscape with ornamental vegetation (Photos 4 and 5, Appendix D).

**Ruderal Grassland.** Ruderal (i.e., disturbed) California annual grassland habitat is the most extensive vegetation community in the project area at 8.16 ac. Non-native grasses within this plant community are strongly dominant, generally outcompeting other forb and native grass species that may otherwise be present. At the time of the reconnaissance survey, this habitat was dominated by non-native grasses and forbs, including wild oat (*Avena* sp., UPL), Italian rye grass (*Festuca perenne*, FAC), soft brome (*Bromus hordeaceus*, FACU), black mustard (*Brassica nigra*, UPL), wild radish (*Raphanus sativus*, UPL), and prickly lettuce (*Lactuca serriola*, FACU).

In addition to these species, many other forbs and grass species are commonly found but to a much lower extent. These species include bristly ox-tongue (*Helminthotheca echioides*, FAC), poison hemlock (FAC), and curly dock (*Rumex crispus*, FAC). All of these, as well as Italian rye grass, are technically scored as facultative hydrophytes (Lichvar et al. 2016), or plants that sometimes occur in wetlands and sometimes occur in uplands, and can potentially indicate moist condition. However, all these species often dominate disturbed upland areas, especially along the coast where frequent fog occurs, without indicating wetlands, and often form monotypic stands, indicating infestation.

A number of small patches of either arroyo willow (FACW) or red alder (FACW) occur throughout the ruderal grassland, as mentioned above (Photo 3 in Appendix D). These clumps consist of either one or a few two trees and are situated on terraces within the central portion of the study area in areas that were previously in agricultural production. These trees are not associated with the riparian corridor along Pilarcitos Creek, though they likely are able to persist due to locally higher groundwater (within several feet of the surface) near Pilarcitos Creek. We do not believe that this entire area, or any area in the ruderal grassland supporting isolated willows or alders, truly stays saturated within 2 ft of the surface for a substantial portion of the growing season each year, as the site lacks hydric soil and hydrology indicators, or localized topography that would lead to seasonal ponding. Although both arroyo willow and red willow have a wetland indicator status (FACW), we feel that in this situation these trees are functioning as phreatophytes (i.e. woody perennials with a deep taproot that are able to access deep groundwater) as opposed to indicators of wetland conditions, or presence of a riparian corridor. Therefore we do not consider these patches of trees to be CCC jurisdictional wetlands.

**Developed/Ornamental.** Developed/landscaped land use (1.38 ac) includes areas where remnant structures and/or pavement and landscaping from the previous land use of agriculture production remain, and native or ruderal vegetation is largely lacking. The areas of former landscaping largely include the dense hedgerows of Monterey cypress (*Hesperocyparis macrocarpa*, UPL) and Monterey pine (*Pinus radiata*, UPL) trees along the north and western edge of the study area. The areas of development also include areas at the eastern end of the property consisting of several buildings, steel storage containers, and dirt parking areas. The buildings are in active use by the City of Half Moon Bay. Additionally, there are several unused dilapidated structures, including unused concrete channels and culverts present within the grassland and adjacent to the riparian habitat.

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# Appendix A. Custom Soil Report for Project Study Area

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United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **San Mateo Area, California**

## 880 Stone Pine Road Project



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

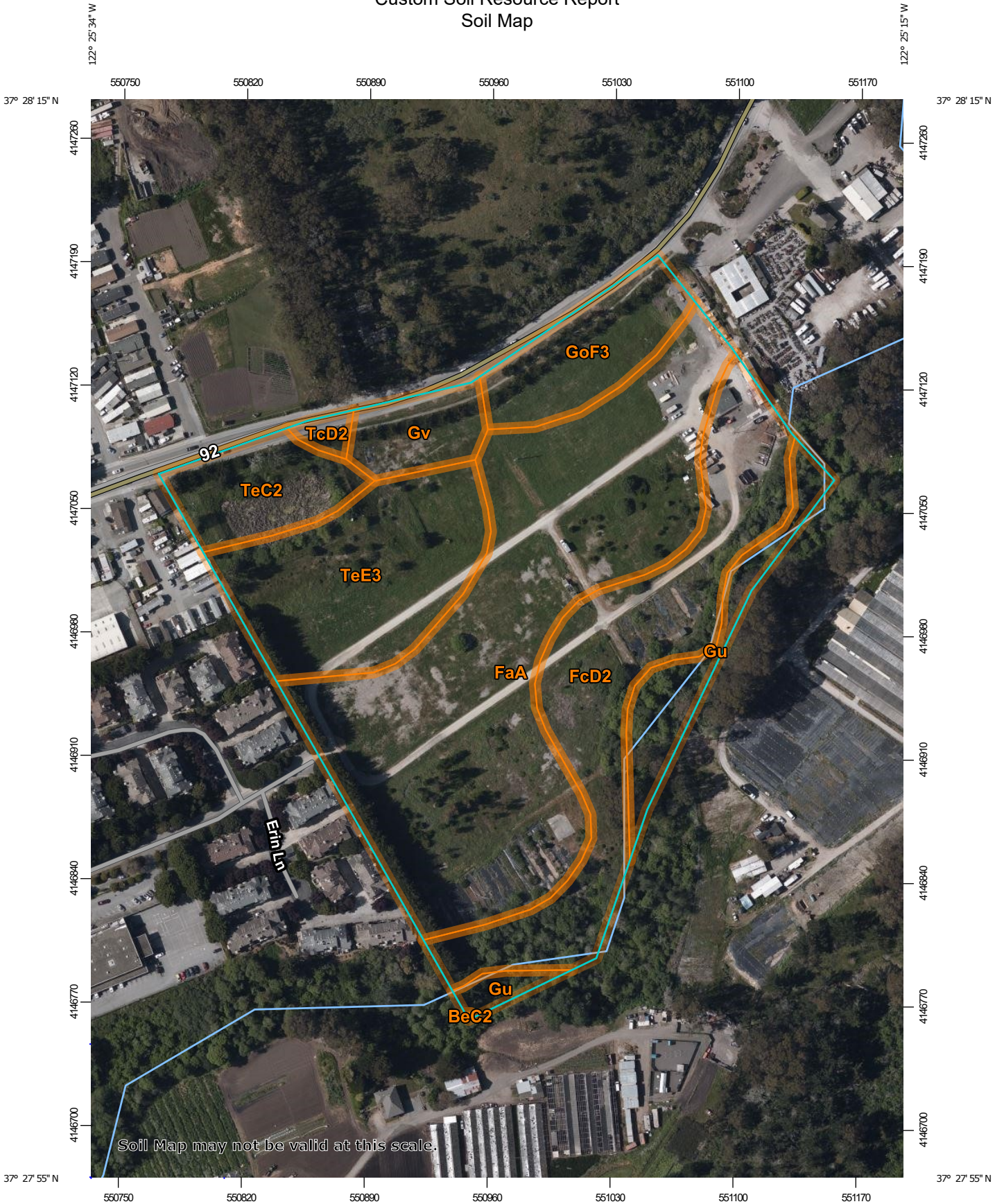
# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

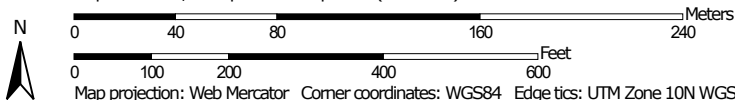


# Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.


Map Scale: 1:2,980 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

**Special Point Features**

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

**Water Features**

 Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Mateo Area, California  
 Survey Area Data: Version 14, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 29, 2019—Jun 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeC2	Botella loam, sloping, eroded	0.0	0.0%
FaA	Farallone loam, nearly level	8.7	41.5%
FcD2	Farallone coarse sandy loam, moderately steep, eroded	4.3	20.4%
GoF3	Gazos and Lobitos soils, steep and very steep, severely eroded	1.4	6.8%
Gu	Gullied land (alluvial soil material)	1.3	6.2%
Gv	Gullied land (gazos-lobitos soil material)	0.8	3.8%
TcD2	Tierra clay loam, moderately steep, eroded	0.1	0.7%
TeC2	Tierra loam, sloping, eroded	1.2	5.8%
TeE3	Tierra loam, steep, severely eroded	3.1	14.8%
<b>Totals for Area of Interest</b>		<b>21.1</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas

## Custom Soil Resource Report

are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.



## San Mateo Area, California

### BeC2—Botella loam, sloping, eroded

#### Map Unit Setting

*National map unit symbol:* h9v8  
*Elevation:* 50 to 800 feet  
*Mean annual precipitation:* 20 to 30 inches  
*Mean annual air temperature:* 57 to 59 degrees F  
*Frost-free period:* 250 to 350 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Botella and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Botella

##### Setting

*Landform:* Alluvial fans, terraces, benches  
*Landform position (two-dimensional):* Backslope, toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

##### Typical profile

*H1 - 0 to 20 inches:* loam  
*H2 - 20 to 60 inches:* silty clay loam

##### Properties and qualities

*Slope:* 7 to 15 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* High (about 10.2 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 3e  
*Hydrologic Soil Group:* C  
*Hydric soil rating:* No

#### Minor Components

##### Soquel

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No



**Unnamed**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**Dublin**

*Percent of map unit: 5 percent*  
*Hydric soil rating: No*

**FaA—Farallone loam, nearly level**

**Map Unit Setting**

*National map unit symbol: 2yrdy*  
*Elevation: 30 to 210 feet*  
*Mean annual precipitation: 28 to 30 inches*  
*Mean annual air temperature: 56 to 57 degrees F*  
*Frost-free period: 365 days*  
*Farmland classification: Prime farmland if irrigated*

**Map Unit Composition**

*Farallone and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Farallone**

**Setting**

*Landform: Alluvial fans, flood plains*  
*Landform position (two-dimensional): Backslope, toeslope*  
*Landform position (three-dimensional): Tread, talf*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Parent material: Alluvium derived from granite*

**Typical profile**

*Ap - 0 to 20 inches: loam*  
*AC - 20 to 48 inches: sandy loam*  
*C - 48 to 60 inches: stratified coarse sandy loam to sandy loam*

**Properties and qualities**

*Slope: 0 to 1 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Drainage class: Well drained*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high*  
*(0.60 to 2.00 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)*  
*Sodium adsorption ratio, maximum: 4.0*  
*Available water capacity: Moderate (about 7.2 inches)*

**Interpretive groups**

*Land capability classification (irrigated): 1*  
*Land capability classification (nonirrigated): 3c*  
*Hydrologic Soil Group: B*  
*Hydric soil rating: No*

**Minor Components**

**Denison**

*Percent of map unit: 10 percent*  
*Landform: Terraces*  
*Landform position (two-dimensional): Toeslope*  
*Landform position (three-dimensional): Tread*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

**Miramar**

*Percent of map unit: 4 percent*  
*Landform: Mountain slopes*  
*Landform position (two-dimensional): Backslope*  
*Landform position (three-dimensional): Mountainflank*  
*Down-slope shape: Concave*  
*Across-slope shape: Convex*  
*Hydric soil rating: No*

**Unnamed**

*Percent of map unit: 1 percent*  
*Landform: Depressions*  
*Landform position (two-dimensional): Toeslope*  
*Landform position (three-dimensional): Dip*  
*Down-slope shape: Concave*  
*Across-slope shape: Concave*  
*Hydric soil rating: Yes*

**FcD2—Farallone coarse sandy loam, moderately steep, eroded**

**Map Unit Setting**

*National map unit symbol: h9x5*  
*Elevation: 50 to 200 feet*  
*Mean annual precipitation: 20 to 30 inches*  
*Mean annual air temperature: 55 degrees F*  
*Frost-free period: 325 days*  
*Farmland classification: Farmland of statewide importance*

**Map Unit Composition**

*Farallone and similar soils: 85 percent*  
*Minor components: 15 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Farallone

### Setting

*Landform:* Alluvial fans, flood plains  
*Landform position (two-dimensional):* Backslope, toeslope  
*Landform position (three-dimensional):* Tread, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

### Typical profile

*H1 - 0 to 15 inches:* coarse sandy loam  
*H2 - 15 to 48 inches:* sandy loam  
*H3 - 48 to 60 inches:* stratified coarse sandy loam to sandy loam

### Properties and qualities

*Slope:* 10 to 20 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water capacity:* Moderate (about 6.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* 4e  
*Land capability classification (nonirrigated):* 4e  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

## Minor Components

### Denison

*Percent of map unit:* 10 percent  
*Hydric soil rating:* No

### Miramar

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

## GoF3—Gazos and Lobitos soils, steep and very steep, severely eroded

### Map Unit Setting

*National map unit symbol:* h9xw  
*Elevation:* 50 to 2,380 feet  
*Mean annual precipitation:* 15 to 30 inches  
*Mean annual air temperature:* 55 to 63 degrees F  
*Frost-free period:* 200 to 300 days

## Custom Soil Resource Report

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Gazos and similar soils:* 45 percent

*Lobitos and similar soils:* 35 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Gazos

#### Setting

*Landform:* Mountain slopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Shale

#### Typical profile

*H1 - 0 to 8 inches:* silt loam

*H2 - 8 to 20 inches:* silt loam

*H3 - 20 to 24 inches:* unweathered bedrock

#### Properties and qualities

*Slope:* 30 to 75 percent

*Depth to restrictive feature:* 20 to 24 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 3.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

### Description of Lobitos

#### Setting

*Landform:* Mountain slopes

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Mountainflank

*Down-slope shape:* Concave

*Across-slope shape:* Convex

*Parent material:* Shale

#### Typical profile

*H1 - 0 to 14 inches:* silt loam

*H2 - 14 to 25 inches:* channery clay loam

*H3 - 25 to 29 inches:* channery loam

*H4 - 29 to 34 inches:* unweathered bedrock

## Custom Soil Resource Report

### Properties and qualities

*Slope:* 30 to 75 percent

*Depth to restrictive feature:* 29 to 34 inches to lithic bedrock

*Drainage class:* Well drained

*Runoff class:* Very high

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water capacity:* Low (about 4.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 7e

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

### Minor Components

#### Gullied land

*Percent of map unit:* 10 percent

*Hydric soil rating:* No

#### Sweeney

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Calera

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

## Gu—Gullied land (alluvial soil material)

### Map Unit Setting

*National map unit symbol:* 2yrf4

*Elevation:* 20 to 420 feet

*Mean annual precipitation:* 29 to 32 inches

*Mean annual air temperature:* 56 to 57 degrees F

*Frost-free period:* 365 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Gullied land, (aluvial):* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*



**Description of Gullied Land, (aluvial)**

**Setting**

*Landform:* Flood plains  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium

**Properties and qualities**

*Slope:* 2 to 15 percent  
*Frequency of flooding:* OccasionalNone

**Interpretive groups**

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 8w  
*Hydric soil rating:* No

**Minor Components**

**Unnamed**

*Percent of map unit:* 5 percent  
*Landform:* Draws  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

**Botella**

*Percent of map unit:* 4 percent  
*Landform:* Alluvial fans, terraces, benches  
*Landform position (two-dimensional):* Backslope, toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Farallone**

*Percent of map unit:* 3 percent  
*Landform:* Alluvial fans, flood plains  
*Landform position (two-dimensional):* Backslope, toeslope  
*Landform position (three-dimensional):* Tread, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**Soquel**

*Percent of map unit:* 3 percent  
*Landform:* Flood plains  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

## **Gv—Gullied land (gazos-lobitos soil material)**

### **Map Unit Composition**

*Gullied land, (gazos-): 85 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Gullied Land, (gazos-)**

#### **Setting**

*Landform: Mountain slopes*

*Landform position (two-dimensional): Backslope*

*Landform position (three-dimensional): Mountainflank*

*Down-slope shape: Concave*

*Across-slope shape: Convex*

*Parent material: Residuum weathered from shale*

#### **Typical profile**

*H1 - 0 to 60 inches: variable*

#### **Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 8e*

*Hydric soil rating: No*

### **Minor Components**

#### **Unnamed**

*Percent of map unit: 5 percent*

*Landform: Draws*

*Hydric soil rating: Yes*

#### **Gazos**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

#### **Lobitos**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

## **TcD2—Tierra clay loam, moderately steep, eroded**

### **Map Unit Setting**

*National map unit symbol: 2yrf9*

*Elevation: 60 to 720 feet*

*Mean annual precipitation: 29 to 31 inches*

*Mean annual air temperature: 56 to 57 degrees F*

## Custom Soil Resource Report

*Frost-free period:* 365 days

*Farmland classification:* Not prime farmland

### Map Unit Composition

*Tierra and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Tierra

#### Setting

*Landform:* Hills

*Landform position (two-dimensional):* Backslope

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Convex

*Across-slope shape:* Convex

*Parent material:* Alluvium derived from sedimentary rock

#### Typical profile

*A - 0 to 17 inches:* clay loam

*Bt - 17 to 37 inches:* clay

*C - 37 to 60 inches:* sandy clay loam

#### Properties and qualities

*Slope:* 11 to 20 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Moderately well drained

*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately low  
(0.01 to 0.06 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 10.0

*Available water capacity:* Moderate (about 8.7 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4e

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Minor Components

#### Colma

*Percent of map unit:* 10 percent

*Landform:* Terraces

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Hydric soil rating:* No

#### Santa lucia

*Percent of map unit:* 5 percent

*Landform:* Mountain slopes

*Landform position (two-dimensional):* Backslope

## Custom Soil Resource Report

*Landform position (three-dimensional):* Mountainflank  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

### **TeC2—Tierra loam, sloping, eroded**

#### **Map Unit Setting**

*National map unit symbol:* 2yrfd  
*Elevation:* 80 to 510 feet  
*Mean annual precipitation:* 28 to 32 inches  
*Mean annual air temperature:* 56 to 57 degrees F  
*Frost-free period:* 365 days  
*Farmland classification:* Not prime farmland

#### **Map Unit Composition**

*Tierra and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### **Description of Tierra**

##### **Setting**

*Landform:* Hills  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Alluvium derived from sedimentary rock

##### **Typical profile**

*A - 0 to 17 inches:* loam  
*Bt - 17 to 37 inches:* clay  
*C - 37 to 60 inches:* sandy clay loam

##### **Properties and qualities**

*Slope:* 5 to 11 percent  
*Depth to restrictive feature:* 10 to 24 inches to abrupt textural change  
*Drainage class:* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately low  
(0.01 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 10.0  
*Available water capacity:* Very low (about 2.7 inches)

##### **Interpretive groups**

*Land capability classification (irrigated):* 3e  
*Land capability classification (nonirrigated):* 3e

## Custom Soil Resource Report

*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Minor Components

#### Colma

*Percent of map unit:* 10 percent  
*Landform:* Terraces  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Santa lucia

*Percent of map unit:* 3 percent  
*Landform:* Mountain slopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Mountainflank  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

#### Unnamed

*Percent of map unit:* 2 percent  
*Landform:* Swales  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Hydric soil rating:* Yes

## TeE3—Tierra loam, steep, severely eroded

### Map Unit Setting

*National map unit symbol:* 2yrfg  
*Elevation:* 100 to 650 feet  
*Mean annual precipitation:* 29 to 31 inches  
*Mean annual air temperature:* 56 to 57 degrees F  
*Frost-free period:* 365 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Tierra and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Tierra

#### Setting

*Landform:* Hills



## Custom Soil Resource Report

*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Convex  
*Across-slope shape:* Convex  
*Parent material:* Alluvium derived from sedimentary rock

### Typical profile

*A - 0 to 13 inches:* loam  
*Bt - 13 to 33 inches:* clay  
*C - 33 to 60 inches:* sandy clay loam

### Properties and qualities

*Slope:* 21 to 41 percent  
*Depth to restrictive feature:* 10 to 24 inches to abrupt textural change  
*Drainage class:* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Low to moderately low  
(0.01 to 0.06 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Maximum salinity:* Nonsaline (0.0 to 1.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 10.0  
*Available water capacity:* Very low (about 2.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* No

### Minor Components

#### Colma

*Percent of map unit:* 10 percent  
*Landform:* Terraces  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Santa lucia

*Percent of map unit:* 5 percent  
*Landform:* Mountain slopes  
*Landform position (two-dimensional):* Backslope  
*Landform position (three-dimensional):* Mountainflank  
*Down-slope shape:* Concave  
*Across-slope shape:* Convex  
*Hydric soil rating:* No

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## Appendix B. Plants Observed in the Project Area

Family	Scientific Name	Common Name	Wetland Indicator Status <sup>1</sup>
Agavaceae	<i>Chlorogalum pomeridianum</i>	Soap plant	UPL
Anacardiaceae	<i>Toxicodendron diversilobum</i>	Poison oak	FAC
Apiaceae	<i>Conium maculatum</i>	poison hemlock	FAC
	<i>Hydrocotyle verticillata</i>	Whorled Marsh-Pennywort	OBL
	<i>Torilis arvensis</i>	field hedge parsley	UPL
Araceae	<i>Lemna</i> sp.	duckweed	OBL
Araliaceae	<i>Hedera helix</i>	English ivy	FACU
Asteraceae	<i>Arctotheca prostrata</i>	creeping capeweed	UPL
	<i>Baccharis pilularis</i>	Coyote brush	UPL
	<i>Carduus pycnocephalus</i>	Italian thistle	UPL
	<i>Cirsium vulgare</i>	Bull thistle	FACU
	<i>Deinandra corymbosa</i>	Coastal tarweed	UPL
	<i>Delairea odorata</i>	cape ivy	UPL
	<i>Helminthotheca echioides</i>	Bristly ox-tongue	FAC
	<i>Lactuca serriola</i>	prickly lettuce	FACU
	<i>Madia sativa</i>	Chile Tarweed	UPL
	<i>Silybum marinum</i>	Milk thistle	UPL
Azollaceae	<i>Azolla filiculoides</i>	mosquito fern	OBL
Betulaceae	<i>Alnus rubra</i>	red alder	FAC
Brassicaceae	<i>Brassica nigra</i>	Black mustard	UPL
	<i>Hirschfeldia incana</i>	Mediterranean hoary mustard	UPL
	<i>Raphanus sativus</i>	Wild radish	UPL
Caryophyllaceae	<i>Silene gallica</i>	windmill pink	UPL
Cupressaceae	<i>Sequoia sempervirens</i>	Coast redwood	UPL
Cyperaceae	<i>Carex barbarae</i>	Santa Barbara Sedge	FAC
	<i>Carex densa</i>	Dense sedge	OBL

Family	Scientific Name	Common Name	Wetland Indicator Status <sup>1</sup>
	<i>Cyperus eragrostis</i>	Tall flatsedge	FACW
<b>Equisetaceae</b>	<i>Equisetum arvense</i>	common horsetail	FAC
<b>Fabaceae</b>	<i>Acacia dealbata</i>	Silver wattle	UPL
	<i>Genista monspessulana</i>	French broom	UPL
	<i>Lotus corniculatus</i>	bird's foot trefoil	FAC
	<i>Lupinus arboreus</i>	coastal bush lupine	UPL
	<i>Trifolium angustifolium</i>	Narrow leaved clover	UPL
	<i>Vicia villosa</i>	Hairy vetch	UPL
<b>Fagaceae</b>	<i>Quercus agrifolia</i>	Coast live oak	UPL
<b>Junaceaeae</b>	<i>Juncus effusus</i>	Bog rush	FACW
	<i>Juncus patens</i>	Common rush	FACW
	<i>Juncus xiphioides</i>	Iris leaved rush	OBL
<b>Lamiaceae</b>	<i>Stachys bullata</i>	California hedge nettle	UPL
<b>Linaceae</b>	<i>Linum bienne</i>	narrow leaved flax	UPL
<b>Myrtaceae</b>	<i>Eucalyptus globulus</i>	blue gum	UPL
<b>Pinaceae</b>	<i>Hesperocyparis macrocarpa</i>	Monterey cypress	UPL
	<i>Pinus radiata</i>	Monterey pine	UPL
	<i>Pseudotsuga menziesii</i>	Douglas fir	FACU
<b>Plataginaceae</b>	<i>Plantago coronopus</i>	cutleaf plantain	FAC
<b>Poaceae</b>	<i>Agoseris stolonifera</i>	Creeping bentgrass	FAC
	<i>Aira caryophyllea</i>	Silvery hairgrass	FACU
	<i>Avena</i> sp.	Wild oats	UPL
	<i>Briza maxima</i>	Rattlesnake grass	UPL
	<i>Briza minor</i>	Little quaking grass	FAC
	<i>Bromus diandrus</i>	Ripgut brome	UPL
	<i>Bromus hordeaceus</i>	soft chess	FACU
	<i>Cortaderia jubata</i>	Pampas grass	FACU
	<i>Cynosurus echinatus</i>	dogtail grass	UPL
	<i>Festuca perenne</i>	Italian ryegrass	FAC

Family	Scientific Name	Common Name	Wetland Indicator Status <sup>1</sup>
	<i>Holcus lanatus</i>	Velvet grass	FAC
	<i>Hordeum murinum</i>	meadow barley	FAC
	<i>Polypogon monspeliensis</i>	rabbitsfoot grass	FACW
<b>Polygonaceae</b>	<i>Rumex acetosella</i>	Sheep sorrel	FACU
	<i>Rumex crispus</i>	curly dock	FAC
<b>Primulaceae</b>	<i>Lysimachia arvensis</i>	scarlet pimpernel	FAC
<b>Rosaceae</b>	<i>Cotoneaster pannosus</i>	silverleaf cotoneaster	UPL
	<i>Rubus armeniacus</i>	Himalayan blackberry	FAC
	<i>Rubus ursinus</i>	California blackberry	FACU
<b>Salicaceae</b>	<i>Salix laevigata</i>	red willow	FACW
	<i>Salix lasiandra</i>	Pacific willow	FACW
	<i>Salix lasiolepis</i>	arroyo willow	FACW
<b>Typhaceae</b>	<i>Typha latifolia</i>	common cattail	OBL
<b>Urticaceae</b>	<i>Urtica dioica</i> ssp. <i>dioica</i>	stinging nettle	FAC

Notes:

Wetland Indicator Status obtained from Lichvar et al. (2016)

<sup>1</sup> Wetland Indicator Status Key:

OBL = Obligate wetland species, occur almost always in wetlands (>99% probability).

FACW = Facultative Wetland species, usually occur in wetlands (67 to 99% probability), but occasionally found in non-wetlands.

FAC = Facultative species, equally likely to occur in wetlands or non-wetlands (34 to 66% probability).

FACU = Facultative Upland, usually occur in non-wetlands (67% to 99%), but occasionally found in wetlands.

UPL = Obligate Upland species, occur almost always in non-wetlands (>99% probability).

NI = Non Indicator, not present on list.



## Appendix C. Wetland Determination Data Forms

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**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region**

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP1  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR): LRR-C Lat: 37.468385 Long: -122.425183 Datum: WGS84  
 Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks:  
 Point taken to examine swale on edge of property - appears to be a head-cut or erosional feature, perhaps an abandoned agricultural ditch.

**VEGETATION**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total Cover: _____			

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total Cover: _____			

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Conium maculatum</u>	40	X	_____
2. <u>Festuca perennis</u>	30	X	_____
3. <u>Raphanus sativus</u>	20	X	_____
4. <u>Helminthotheca</u>	10	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
Total Cover: <u>100</u>			

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
Total Cover: _____			

% Bare Ground in Herb Stratum 0

Remarks:  
 Ruderal vegetation dominated by Conium. Not a strong demarcation between vegetation in swale and surrounding hillslope.

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>66</u> (A/B)

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL Species _____ x 5 = _____	
Column totals _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

1 – Rapid Test for Hydrophytic Vegetation  
 2 – Dominance Text is >50%  
 3 – Prevalence Index is ≤3.0<sup>1</sup>  
 4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 5 – Wetland Non-vascular Plants<sup>1</sup> (Explain)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
--	---	-----------------------------

**SOIL**

Sampling Point: **SP1**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	7.5 YR 4/2	100					clay loam	many roots

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :			
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	2 cm Muck (A10)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Matrix (F3)		
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Dark Surface (F6)		
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Depleted Dark Surface (F7)		
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (If present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No X

Remarks:  
 Soil appears to be well-drained. No redox features observed.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No X    Depth (inches): \_\_\_\_\_

Water Table Present?    Yes \_\_\_\_\_    No X    Depth (inches): \_\_\_\_\_

Saturation Present?    Yes \_\_\_\_\_    No X    Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes \_\_\_\_\_    No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Feature is ditch/swale-like and appears to be eroding via head cut. Likely a former agricultural ditch, used to convey run-off and has been long since abandoned. No indicators of recent flow observed. Feature does not appear to pond water either. Water may flow through here immediately following strong storm events, but then would transition to sheet flow at bottom of slope (i.e. does not drain directly into another stream or drainage).

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP2  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 3-4  
 Subregion (LRR): LRR-C Lat: 37.46845 Long: -122.42513 Datum: NAD83  
 Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Vegetation \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:  
 Point taken to examine the hillslope adjacent the swale.

## VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Festuca perennis</u>	<u>60</u>	<u>X</u>	<u>FAC</u>
2. <u>Avena fatua</u>	<u>30</u>	<u>X</u>	<u>UPL</u>
3. <u>Raphanus sativa</u>	<u>5</u>		<u>UPL</u>
4. <u>Vicia sativa</u>	<u>5</u>		<u>UPL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
Total Cover:	<u>100</u>		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
Total Cover:	_____		

% Bare Ground in Herb Stratum \_\_\_\_\_

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50</u> (A/B)

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species <u>60</u> x 3 = <u>180</u>	
FACU species _____ x 4 = _____	
UPL Species <u>40</u> x 5 = <u>200</u>	
Column totals <u>100</u> (A)	<u>380</u> (B)
Prevalence Index = B/A = <u>3.8</u>	

**Hydrophytic Vegetation Indicators:**

\_\_\_ 1 – Rapid Test for Hydrophytic Vegetation  
 \_\_\_ 2 – Dominance Text is >50%  
 \_\_\_ 3 – Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ 4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ 5 – Wetland Non-vascular Plants<sup>1</sup> (Explain)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	Yes _____	No _____	X _____
--	-----------	----------	---------

Remarks:  
 Italian rye-grass dominated grassland – other co-dominant species are upland grasses and forbs.

**SOIL**

Sampling Point: **SP2**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/3	50					clay loam	
0-16	5 YR 5/4	50					clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	2 cm Muck (A10)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Matrix (F3)		
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Dark Surface (F6)		
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Depleted Dark Surface (F7)		
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	Redox Depressions (F8)		

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p><b>Restrictive Layer (If present):</b>                  Type: _____                  Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>    Yes _____    No <u>X</u></p>
---	--

Remarks:  
 Soil has a mixed matrix of two soil colors. Redox features not observed.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<p><b>Field Observations:</b>                  Surface Water Present?    Yes _____    No <u>X</u>    Depth (inches): _____                  Water Table Present?    Yes _____    No <u>X</u>    Depth (inches): _____                  Saturation Present?    Yes _____    No <u>X</u>    Depth (inches): _____                  (includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>    Yes _____    No <u>X</u></p>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Hillslope, upland landscape position.

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region**

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP3  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 3-4  
 Subregion (LRR): LRR-C Lat: 37.46882 Long: -122.42505 Datum: WGS84  
 Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Vegetation \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____		
Wetland Hydrology Present?	Yes <u>X</u> No _____		

Remarks:  
 Freshwater marsh in an abandoned (but still inundated) agricultural pond.

**VEGETATION**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha latifolia</u>	<u>60</u>	<u>X</u>	<u>OBL</u>
2. <u>Azolla spp.</u>	<u>20</u>	<u>X</u>	<u>OBL</u>
3. <u>Lemna spp.</u>	<u>10</u>		<u>OBL</u>
4. <u>Hydrocotyle verticillata</u>	<u>10</u>		<u>OBL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
Total Cover:	<u>100</u>		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
Total Cover:	_____		

% Bare Ground in Herb Stratum 0

Remarks:  
 Cattail-dominated freshwater marsh.

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL Species _____ x 5 = _____	
Column totals _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

X 1 – Rapid Test for Hydrophytic Vegetation  
X 2 – Dominance Text is >50%  
 \_\_\_\_\_ 3 – Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_\_\_ 4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_\_ 5 – Wetland Non-vascular Plants<sup>1</sup> (Explain)  
 \_\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	Yes <u>X</u> No _____
--	-----------------------



**SOIL**

Sampling Point: **SP3**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
n/a							mucky	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains      <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :			
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	2 cm Muck (A10)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input checked="" type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Matrix (F3)		
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Dark Surface (F6)		
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Depleted Dark Surface (F7)		
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (If present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:  
 Soil pit not dug, due to standing water. Hydrogen sulfide smell observed in a shallow pit dug on the edge of the marsh. Soils presumed hydric based on dominance of OBL species, and year-round inundation of soils.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): ~6" Water Table Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): N/A Saturation Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): N/A (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Perennially inundated pond, likely fed by groundwater. Water present year round. The water depth in the middle of the pond feature is unknown.

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region**

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP4  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 1  
 Subregion (LRR): LRR-C Lat: 37.46877 Long: -122.42499 Datum: WGS84  
 Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Vegetation \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:  
 Upland paired point to SP4 - point taken to examine the riparian vegetation on the banks of the abandoned agricultural pond.

**VEGETATION**

Tree Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix laevigata</u>	<u>60</u>	<u>X</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. <u>5</u>	_____	_____	_____
Total Cover:	<u>0</u>		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Holcus lanatus</u>	<u>60</u>	<u>X</u>	<u>FAC</u>
2. <u>Vicia tetrasperma</u>	<u>30</u>	<u>X</u>	<u>UPL</u>
3. <u>Festuca perennis</u>	<u>20</u>	<u>X</u>	<u>FAC</u>
4. <u>Geranium molle</u>	<u>&lt;1</u>		<u>UPL</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
Total Cover:	<u>100</u>		

Woody Vine Stratum (Plot size: <u>30 x 30 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus ursinus</u>	<u>5</u>	<u>X</u>	<u>FACU</u>
2. _____	_____	_____	_____
Total Cover:	<u>5</u>		

% Bare Ground in Herb Stratum 0

Remarks:  
 Overstory willow cover is rooted at edge of marsh, the remainder of the riparian vegetation on the bank is dominated by FAC grasses.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>5</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>60</u>	(A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL Species _____ x 5 = _____	
Column totals _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

\_\_\_\_ 1 – Rapid Test for Hydrophytic Vegetation  
X 2 – Dominance Text is >50%  
 \_\_\_\_ 3 – Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_\_ 4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_\_ 5 – Wetland Non-vascular Plants<sup>1</sup> (Explain)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	Yes <u>X</u>	No _____
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**SOIL**

Sampling Point: **SP4**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	2.5Y 5/3	100	7.5 YR 5/4	<1	C	M	clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (If present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No

Remarks:  
 Some very faint redox concentrations in the matrix. Soils are not in a landscape position (mid banks of a constructed pond) where they would be seasonally inundated.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<p><b>Field Observations:</b></p> <p>Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Water Table Present?    Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>Saturation Present?    Yes _____    No <input checked="" type="checkbox"/>    Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p><b>Wetland Hydrology Present?</b>    Yes _____    No <input checked="" type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 Hillslope bank of artificial pond. All surface flow in the winter season would readily drain into the adjacent pond.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP5  
 Investigator(s): M. Bibbo Section/Township/Range: N/A

Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): LRR-C Lat: 37.46825 Long: -122.42389 Datum: WGS84

Soil Map Unit Name: Farallone loam, nearly level NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:  
 Point taken to examine the willow/alder stands that occur on the site - may be considered "one-parameter CCC wetlands".

## VEGETATION

Tree Stratum (Plot size: <u>30 x 30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. <u>Salix laevigata</u>	<u>90</u>	<u>X</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
Total Cover:	<u>90</u>				
Sapling/Shrub Stratum (Plot size: _____)				<b>Prevalence Index worksheet:</b>	
1. _____				Total % Cover of: _____ Multiply by: _____	
2. _____				OBL species _____ x 1 = _____	
3. _____				FACW species _____ x 2 = _____	
4. _____				FAC species _____ x 3 = _____	
5. _____				FACU species _____ x 4 = _____	
Total Cover:	<u>0</u>			UPL Species _____ x 5 = _____	
				Column totals _____ (A) _____ (B)	
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>30 x 30'</u> )				<b>Hydrophytic Vegetation Indicators:</b>	
1. <u>Festuca perennis</u>	<u>2</u>	<u>X</u>	<u>FAC</u>	____ 1 – Rapid Test for Hydrophytic Vegetation	
2. <u>Avena fatua</u>	<u>1</u>		<u>UPL</u>	<u>X</u> 2 – Dominance Text is >50%	
3. <u>Bromus diandrus</u>	<u>1</u>		<u>UPL</u>	____ 3 – Prevalence Index is ≤3.0 <sup>1</sup>	
4. <u>Bromus catharticus</u>	<u>1</u>		<u>UPL</u>	____ 4 – Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
5. _____				____ 5 – Wetland Non-vascular Plants <sup>1</sup> (Explain)	
6. _____				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
7. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
8. _____					
9. _____					
10. _____					
11. _____					
Total Cover:	<u>5</u>				
Woody Vine Stratum (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____	
1. _____					
2. _____					
Total Cover:					
% Bare Ground in Herb Stratum _____					

Remarks:  
 Wetland boundary defined by overstory canopy of willow. Understory is absent (i.e. bare) to very sparsely vegetated by FAC and UPL grasses.

**SOIL**

Sampling Point: **SP5**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/2	100					clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains      <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (If present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No X

Remarks:  
 No redox features observed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LLR A)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

**Field Observations:**

Surface Water Present?    Yes \_\_\_\_\_    No X    Depth (inches): \_\_\_\_\_

Water Table Present?    Yes \_\_\_\_\_    No X    Depth (inches): \_\_\_\_\_

Saturation Present?    Yes \_\_\_\_\_    No X    Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes \_\_\_\_\_    No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
 The willow/alder patches are situated on a flat terrace that was previously leveled and in agricultural production. There may be a high water table that the roots are tapping into.

**WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region**

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP6  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): LRR-C Lat: 37.46822 Long: -122.42382 Datum: WGS84  
 Soil Map Unit Name: Farallone loam, nearly level NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Yes \_\_\_\_\_ No X Are "Normal Circumstances" present? Yes \_\_\_\_\_ No X  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Yes \_\_\_\_\_ No \_\_\_\_\_

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:  
 Paired point to SP5.

**VEGETATION**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total Cover:	<u>0</u>		

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Avena fatua</u>	<u>50</u>	<u>X</u>	<u>UPL</u>
2. <u>Bromus diandrus</u>	<u>25</u>	<u>X</u>	<u>UPL</u>
3. <u>Festuca myuros</u>	<u>10</u>		<u>UPL</u>
4. <u>Festuca perennis</u>	<u>10</u>		<u>FAC</u>
5. <u>Carduus pycnocephalus</u>	<u>3</u>		<u>UPL</u>
6. <u>Erigeron canadensis</u>	<u>2</u>		<u>UPL</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
Total Cover:	<u>100</u>		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
Total Cover:	_____		

% Bare Ground in Herb Stratum 0

Remarks:  
 Dominated by upland grasses.

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL Species _____ x 5 = _____	
Column totals _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

- Hydrophytic Vegetation Indicators:**
- \_\_\_ 1 – Rapid Test for Hydrophytic Vegetation
  - \_\_\_ 2 – Dominance Text is >50%
  - \_\_\_ 3 – Prevalence Index is ≤3.0<sup>1</sup>
  - \_\_\_ 4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - \_\_\_ 5 – Wetland Non-vascular Plants<sup>1</sup> (Explain) Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	Yes _____	No <u>X</u>
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**SOIL**

Sampling Point: **SP6**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/2	100					Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains      <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils <sup>3</sup> :		
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	2 cm Muck (A10)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Matrix (F3)		
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Dark Surface (F6)		
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Depleted Dark Surface (F7)		
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	Redox Depressions (F8)		

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (If present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____    No <input checked="" type="checkbox"/>
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Remarks:  
No redox features observed.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present?    Yes _____    No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____    No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Level terrace, no indication of seasonal inundation.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP7  
 Investigator(s): M. Bibbo Section/Township/Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 1  
 Subregion (LRR): LRR-C Lat: 37.46808 Long: -122.42309 Datum: WGS84

Soil Map Unit Name: Farallone coarse sandy loam, moderately steep, eroded NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>		Yes _____	No <u>X</u>
Wetland Hydrology Present?	Yes _____	No <u>X</u>		Yes _____	No _____

Remarks:  
 Point taken to examine poison hemlock infestation on terrace in southern portion of property.

**VEGETATION**

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>1</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Total Cover:	<u>0</u>	_____	_____	

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>
1. _____	_____	_____	_____	Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL Species _____ x 5 = _____ Column totals _____ (A) _____ (B)  Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover:	<u>0</u>	_____	_____	

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>
1. <u>Conium maculatum</u>	<u>100</u>	<u>X</u>	<u>FAC</u>	<u>1</u> – Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> – Dominance Text is >50% <u>3</u> – Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> – Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>5</u> – Wetland Non-vascular Plants <sup>1</sup> (Explain) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.
2. <u>Hirschfeldia incana</u>	<u>2</u>	_____	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
Total Cover:	<u>100</u>	_____	_____	

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b>
1. _____	_____	_____	_____	Yes <u>X</u> No _____
2. _____	_____	_____	_____	
Total Cover:	_____	_____	_____	

Remarks:  
 Ruderal vegetation dominated by poison hemlock, a FAC plant. Hemlock is not "acting" like a wetland plant in this situation.

**SOIL**

Sampling Point: **SP7**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	7.5 YR 4/2	100					Sandy loam	coarse

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (If present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____    No <u>X</u>
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Remarks:  
No redox features observed.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <u>X</u> Depth (inches): _____ Water Table Present?    Yes _____    No <u>X</u> Depth (inches): _____ Saturation Present?    Yes _____    No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____    No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Upland landscape position.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP8  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): LRR-C Lat: 37.469925 Long: -122.42175 Datum: WGS84  
 Soil Map Unit Name: Farallone coarse sandy loam, moderately steep, eroded NWI classification None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Vegetation \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____		
Hydric Soil Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____ No <u>X</u>
Wetland Hydrology Present?	Yes _____	No <u>X</u>		

Remarks:  
 Point taken to examine the riparian corridor of Pilarcitos Creek.

## VEGETATION

Tree Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix laevigata</u>	100	X	FACW
2. _____			
3. _____			
4. _____			
Total Cover:	100		

Sapling/Shrub Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus armeniacus</u>	20	X	FAC
2. _____			
3. _____			
4. _____			
5. _____			
Total Cover:	20		

Herb Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Urtic dioica</u>	5	X	FAC
2. <u>Stachys rigida</u>	5	X	FACW
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
Total Cover:	10		

Woody Vine Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Delairea odorata</u>	75	X	FAC
2. _____			
Total Cover:	75		

% Bare Ground in Herb Stratum 0

Remarks:  
 Willow-dominated, dense, multi-layered riparian vegetation.

### Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

### Prevalence Index worksheet:

Total % Cover of: Multiply by:

OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL Species _____	x 5 = _____
Column totals _____	(A) _____ (B) _____

Prevalence Index = B/A = \_\_\_\_\_

### Hydrophytic Vegetation Indicators:

- \_\_\_\_ 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Text is >50%
- \_\_\_\_ 3 – Prevalence Index is ≤3.0<sup>1</sup>
- \_\_\_\_ 4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- \_\_\_\_ 5 – Wetland Non-vascular Plants<sup>1</sup> (Explain)
- \_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

**Hydrophytic Vegetation Present?**

Yes X No \_\_\_\_\_

**SOIL**

Sampling Point: **SP8**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 3/3	100					sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (If present):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes \_\_\_\_\_    No

Remarks:  
Terrace soils, well-drained. No redoximorphic features observed.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

<b>Primary Indicators (minimum of one required: check all that apply)</b>		<b>Secondary Indicators (2 or more required)</b>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )	<input type="checkbox"/> Water-Stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )	<input type="checkbox"/> Raised Ant Mounds (D6) ( <b>LLR A</b> )
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

**Field Observations:**

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes _____    No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
(includes capillary fringe)			

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Upland landscape position - high terrace above Pilarcitos Creek.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP9  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): LRR-C Lat: 37.46687 Long: -122.42311 Datum: WGS84  
 Soil Map Unit Name: Farallone coarse sandy loam, moderately steep, eroded NWI classification None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Vegetation \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u>	No _____	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>		Yes _____	No <u>X</u>
Wetland Hydrology Present?	Yes _____	No <u>X</u>		Yes _____	No _____

Remarks:  
 Point taken to examine the riparian corridor of Pilarcitos Creek. Point taken in southwest corner of property.

### VEGETATION

Tree Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>			
1. <u>Salix laevigata</u>	60	X	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>5</u> (A)		
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>5</u> (B)		
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)		
4. _____	_____	_____	_____				
Total Cover:	60						
Sapling/Shrub Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b>			
1. <u>Rubus armeniacus</u>	60	X	FAC			Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____			OBL species _____ x 1 = _____	
3. _____	_____	_____	_____			FACW species _____ x 2 = _____	
4. _____	_____	_____	_____			FAC species _____ x 3 = _____	
5. _____	_____	_____	_____			FACU species _____ x 4 = _____	
Total Cover:	60			UPL Species _____ x 5 = _____			
				Column totals _____ (A) _____ (B)			
				Prevalence Index = B/A = _____			
Herb Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b>			
1. <u>Conium maculatum</u>	20	X	FAC			___ 1 – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Text is >50% ___ 3 – Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 – Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 5 – Wetland Non-vascular Plants <sup>1</sup> (Explain) Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
2. <u>Urtica dioica</u>	10	X	FAC				
3. _____	_____	_____	_____				
4. _____	_____	_____	_____				
5. _____	_____	_____	_____				
6. _____	_____	_____	_____				
7. _____	_____	_____	_____				
8. _____	_____	_____	_____				
9. _____	_____	_____	_____				
10. _____	_____	_____	_____				
11. _____	_____	_____	_____				
Total Cover:	30						
Woody Vine Stratum (Plot size: <u>30 x 30ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____			
1. <u>Delairea odorata</u>	75	X	FAC				
2. _____	_____	_____	_____				
Total Cover:	75						
% Bare Ground in Herb Stratum _____							

Remarks:  
 Willow-dominated, dense, multi-layered riparian vegetation.



**SOIL**

Sampling Point: **SP9**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10 YR 3/2	100					sandy loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains    <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (If present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____    No <b>X</b>
--	--

Remarks:  
Terrace soils, well-drained. No redoximorphic features observed.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) ( <b>except MLRA 1, 2, 4A, and 4B</b> )
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) ( <b>LRR A</b> )
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <b>X</b> Depth (inches): _____ Water Table Present?    Yes _____    No <b>X</b> Depth (inches): _____ Saturation Present?    Yes _____    No <b>X</b> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____    No <b>X</b>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Upland landscape position - high terrace above Pilarcitos Creek.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP10  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): LRR-C Lat: 37.46701 Long: -122.42410 Datum: WGS84  
 Soil Map Unit Name: Farallone loam, nearly level NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Remarks:  
 Point taken to examine poison hemlock infestation on terrace in south west portion of property. Hemlock is extensive on this portion of the property.

## VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
Total Cover:	0		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
Total Cover:	0		

Herb Stratum (Plot size: <u>10 x 10 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Conium maculatum</u>	40	X	FAC
2. <u>Festuca perennis</u>	20	X	FAC
3. <u>Bromus diandrus</u>	35	X	UPL
4. <u>Lotus corniculatus</u>	5		FAC
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
Total Cover:	100		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
Total Cover:	_____		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	2 (A)
Total Number of Dominant Species Across All Strata:	3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	66 (A/B)

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____ x 1 = _____	
FACW species _____ x 2 = _____	
FAC species _____ x 3 = _____	
FACU species _____ x 4 = _____	
UPL Species _____ x 5 = _____	
Column totals _____ (A)	_____ (B)
Prevalence Index = B/A = _____	

**Hydrophytic Vegetation Indicators:**

1 – Rapid Test for Hydrophytic Vegetation

2 – Dominance Text is >50%

3 – Prevalence Index is ≤3.0<sup>1</sup>

4 – Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

5 – Wetland Non-vascular Plants<sup>1</sup> (Explain)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.

<b>Hydrophytic Vegetation Present?</b>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:  
 Ruderal vegetation dominated by poison hemlock and Italian rye-grass, FAC plants, though neither are "acting" like a wetland plants in this situation.

**SOIL**

Sampling Point: **SP10**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/2	100					Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains      <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/>	Histosol (A1)	<input type="checkbox"/>	Sandy Redox (S5)	<input type="checkbox"/>	2 cm Muck (A10)
<input type="checkbox"/>	Histic Epipedon (A2)	<input type="checkbox"/>	Stripped Matrix (S6)	<input type="checkbox"/>	Red Parent Material (TF2)
<input type="checkbox"/>	Black Histic (A3)	<input type="checkbox"/>	Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)
<input type="checkbox"/>	Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Other (Explain in Remarks)
<input type="checkbox"/>	Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Matrix (F3)		
<input type="checkbox"/>	Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Dark Surface (F6)		
<input type="checkbox"/>	Sandy Mucky Mineral (S1)	<input type="checkbox"/>	Depleted Dark Surface (F7)		
<input type="checkbox"/>	Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	Redox Depressions (F8)		

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (If present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____    No <u>X</u>
--	--

Remarks:  
Soils appear to be well-drained, no redoximorphic features present.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <u>X</u> Depth (inches): _____ Water Table Present?    Yes _____    No <u>X</u> Depth (inches): _____ Saturation Present?    Yes _____    No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____    No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Level terrace, no indication of seasonal inundation.

# WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020  
 Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP11  
 Investigator(s): M. Bibbo Section/Township/Range: N/A  
 Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0  
 Subregion (LRR): LRR-C Lat: 37.46938 Long: -122.42328 Datum: WGS84  
 Soil Map Unit Name: Farallone loam, nearly level NWI classification None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  
 Vegetation \_\_\_\_\_

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b>	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			

Remarks:  
 Point taken to examine grassland in the northeastern corner of the property. This grassland is typical of the site.

## VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b>	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____		
Total Cover:	<u>0</u>				
<b>Sapling/Shrub Stratum (Plot size: _____)</b>					
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b>	
2. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
3. _____	_____	_____	_____	OBL species _____ x 1 = _____	
4. _____	_____	_____	_____	FACW species _____ x 2 = _____	
5. _____	_____	_____	_____	FAC species _____ x 3 = _____	
Total Cover:	<u>0</u>			FACU species _____ x 4 = _____	
<b>Herb Stratum (Plot size: <u>10 x 10 ft.</u>)</b>					
1. <u>Avena fatua</u>	<u>60</u>	<u>X</u>	<u>UPL</u>	UPL Species _____ x 5 = _____	
2. <u>Bromus diandrus</u>	<u>30</u>	<u>X</u>	<u>UPL</u>	Column totals _____ (A) _____ (B)	
3. <u>Hirschfeldia incana</u>	<u>5</u>		<u>UPL</u>	Prevalence Index = B/A = _____	
4. <u>Helminthotheca echioides</u>	<u>2</u>		<u>FAC</u>	<b>Hydrophytic Vegetation Indicators:</b>	
5. <u>Vicia sativa</u>	<u>2</u>		<u>UPL</u>	____ 1 – Rapid Test for Hydrophytic Vegetation	
6. <u>Rumex crispus</u>	<u>&lt;1</u>		<u>FAC</u>	____ 2 – Dominance Text is >50%	
7. _____	_____	_____	_____	____ 3 – Prevalence Index is ≤3.0 <sup>1</sup>	
8. _____	_____	_____	_____	____ 4 – Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
9. _____	_____	_____	_____	____ 5 – Wetland Non-vascular Plants <sup>1</sup> (Explain)	
10. _____	_____	_____	_____	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
11. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present.	
Total Cover:	<u>100</u>				
<b>Woody Vine Stratum (Plot size: _____)</b>					
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>	
2. _____	_____	_____	_____		
Total Cover:	_____				
<b>% Bare Ground in Herb Stratum <u>0</u></b>					

Remarks:  
 Dominated by upland grasses.

**SOIL**

Sampling Point: **SP11**

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/2	100					Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains      <sup>2</sup>Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>		<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(except MLRA 1)</b>	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (If present):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____    No <u>X</u>
--	--

Remarks:  
Soils appear to be well-drained.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>	
Primary Indicators (minimum of one required: check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-stained Leaves (B9) <b>(except MLRA 1, 2, 4A, and 4B)</b>
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(except MLRA 1, 2, 4A, and 4B)</b>
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b>
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Frost-Heave Hummocks (D7)

<b>Field Observations:</b> Surface Water Present?    Yes _____    No <u>X</u> Depth (inches): _____ Water Table Present?    Yes _____    No <u>X</u> Depth (inches): _____ Saturation Present?    Yes _____    No <u>X</u> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes _____    No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Level terrace, no indication of seasonal inundation.

## Appendix D. Photographic Documentation of the Project Area

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Photo 1. Riparian habitat along Pilarcitos Creek (SP8).



Photo 2. Emergent freshwater marsh habitat around the abandoned agricultural pond (FM-1; SP3).





**Photo 3. Willow/Alder stands in the California annual grassland occupying the old agricultural terraces (SP5).**



**Photo 4. Portion of project area dominated by poison hemlock (SP7).**





Photo 5. Upland grassland habitat typical of the site (SP11).



Photo 6. OWHM and streambed of Pilarcitos Creek forming the eastern edge of the project study area.

## Appendix E. Aquatic Resources Table

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Waters Name	State	Cowardin Code	HGM Code	Measurement Type	Amount	Units	Water Type	Latitude	Longitude	Local Waterway
R1	CALIFORNIA	R2UB	RIVERINE	Area	1.46 ac	ACRE	RPW	37.467987	-122.422659	Pilarcitos Creek
FM1	CALIFORNIA	PEM	DEPRESS	Area	1.17 ac	ACRE	RPWWN	37.468813	-122.425454	Pilarcitos Creek

## Appendix F. Signed statement from the property owner(s) allowing USACE personnel to enter the property

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I, John Doughty, will allow Corps personnel to enter the 880 Stone Pine Road Project property in San Mateo County, California to collect samples during normal business hours. The property is not land-locked, therefore permission from the adjacent property owner(s) in order to provide access is not necessary.

Thank you,

John Doughty  
City of Half Moon Bay  
[jdoughty@hmbcity.com](mailto:jdoughty@hmbcity.com)  
(650) 726-8252



## **APPENDIX B4**

**Draft Frog/Snake Tunnel Design Proposal**

**Dr. Mark Jennings, Rana Resources**





**DRAFT**  
**FROG AND SNAKE TUNNEL DESIGN PROPOSAL**

Mark R. Jennings  
Rana Resources  
October 12, 2021

The proposed frog/snake tunnel and surrounding fencing for the Half Moon Bay Corporation Yard Upgrade Project is designed as follows.

The width of the movement corridor shall be 50 feet. This approximates half of the width of the natural riparian corridor along Pilarcitos Creek (i.e.: a natural corridor along the water's edge). Because no future uses of the open space west of the corporation yard are proposed at this time, the movement corridor shall be placed as close as possible to the western boundary of the Corporation Yard and then head directly south to Pilarcitos Creek (to the location of the 50-foot riparian set back; see Figure 1). This allows for future use of the open space parcels to the west of the movement corridor and makes the distance to the creek as short as possible.

The fencing around the current pond should remain as a 6-foot high chain link fence. The northern and western fence lines should be expanded to the current boundaries of the property. The eastern and southern fence lines should be expanded to the 100-foot wetland setback. The access gate located in the northeast corner of the fence should remain in place.

This fencing will be installed with aluminum slats or vinyl slats (with wings). Gaps at the ends of the fencing will be covered with slats bolted together. The bottom of the fencing should be buried in the soil to a depth of 2 inches (except at the entrance to the movement corridor on the east side of the fence line. Here, no slats will be installed and the fencing shall leave a gap of 2 inches at the bottom for frogs and snakes to pass).

The fencing around the movement corridor itself shall be chain link fencing 4-feet high. It should also be buried 2 inches at the bottom and be covered with aluminum or vinyl slats. Gaps at the ends of the fencing will be covered with slats bolted together. Access gates will be installed on the west side of the fence lines where indicated (Figure 1). This fence will also connect on either side of the roadway to prevent frogs and snakes from entering the roadway (Figure 1).

The frog/snake tunnels shall be composed of 4 concrete box culverts, 3-feet wide and 2-feet high. They should be spaced under the roadway with culverts on the west and east sides flush against the adjacent fencing, and the remaining 2 culverts spaced approximately 14 feet from one another (Figure 2). The culvert bases should be at ground level and installed at a 2% slope to drain water. Either a trench or raising the roadway will be required to ensure that the culvert bases are properly aligned on the ground level. Whichever method is used, the end result is to prevent any water from ponding in the culverts for extended periods.

The floor of each culvert should contain an inch or so of natural soil (so as to cover the concrete base). The level of this soil base should be even with the soil level at the entrance and exit of each box culvert.

Gated access will be provided for any check of the area (e.g., for fire, utilities, culvert or pond inspections, etc.). It is anticipated that vegetation fuels management of the pond area and migration corridor will use grazing by domestic goats on an annual basis.

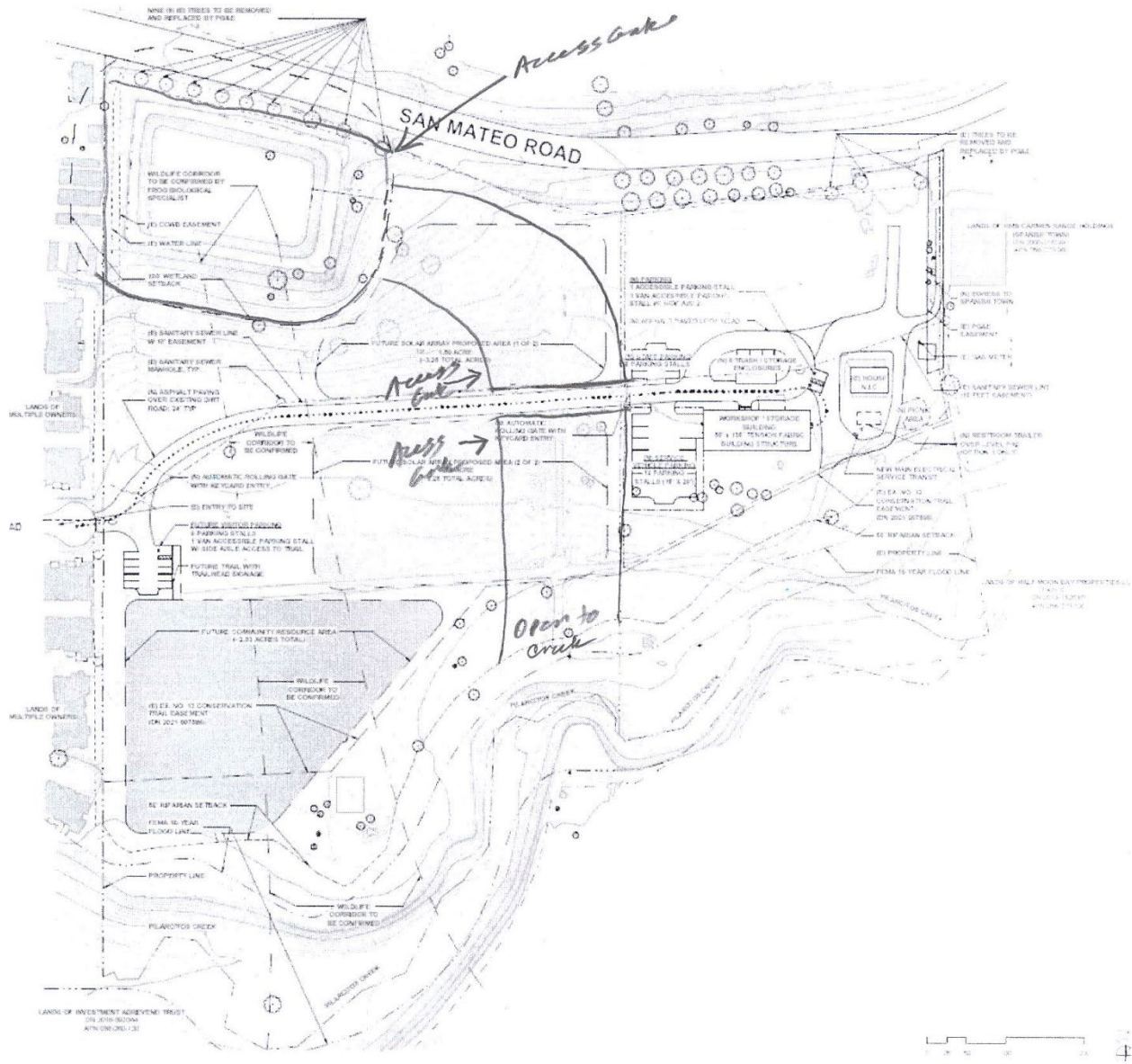


Figure 1. Proposed location of the fencing and movement corridor.

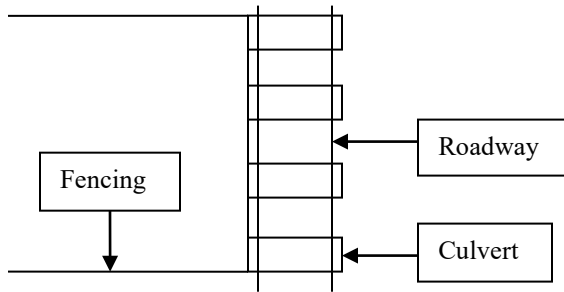


Figure 2. Diagram of fencing to the west with culverts evenly spaced under the roadway.

## **APPENDIX B5**

**Peer Review of H.T. Harvey & Associates Biological Resources Report for  
the City of Half Moon Bay Corporation Yard Upgrade Project**

**Dr. Mark Jennings, Rana Resources**





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**To:** Jessica Henderson-McBean  
SWCA Environmental Consultants  
60 Stone Pine Road, Suite 100  
Half Moon Bay, CA 94019

**From:** Mark R. Jennings, Consulting Biologist

**Date:** #20,048  
January 09, 2022

**Re:** Peer Review of H.T. Harvey & Associates Biological Resources Report for the City of Half Moon Bay Corporation Yard Upgrade Project.

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I have had the chance to review the Biological Resources Report (BRR) prepared by H.T. Harvey & Associates, as well as the November 21, 2021 Technical Memorandum (TM) prepared by yourself for Todd Seely of the City of Half Moon Bay. Based on my peer review of these documents, I find that the conclusions reached in the BRR, as well as the conclusions and suggestions in the TM to be appropriate and biologically justified. Although the agricultural pond mentioned in these documents was discussed as "perennial," recent years of drought have shown that most of the pond bottom is subject to annual drying if rainfall levels are less than average. Additionally, there is a spring located at the base of the old well in the southwest corner of the pond. Both of these findings should be included in considering future management practices with ensuring that the pond continues to be suitable breeding, rearing, and feeding habitat for both California red-legged frogs (*Rana draytonii*) and San Francisco gartersnakes (*Thamnophis sirtalis tetrataenia*). The old well could be used to mitigate against the extensive drying of the pond during extended drought years.

I attempted to determine how long the agricultural pond had been present on site and also if it was regularly filled with water in the past. A check of Google Earth photographs show the pond to be present in the 1980s. However, it probably was constructed many years before that and water storage was probably variable depending on the crops irrigated. It might be useful to find out what kind of crops were irrigated in the past and if this resulted in the agricultural pond historically containing water year around.

Additionally, the pond is almost certainly used by western pond turtles (*Actinemys marmorata*), both for feeding and rearing, and potentially for nesting on the soils that are exposed to sunlight around the edges of the pond. The currently proposed wildlife habitat corridor and fencing appears to be compatible for this species, as well as for California red-legged frogs and San Francisco gartersnakes. However, one issue that was not mentioned and does need to be considered is the potential treatment of the pond for mosquito larvae. The BRR should state in a

mitigation measure that any treatment of the pond for mosquito larvae by the Mosquito Abatement District should not include the planting of western mosquitofish (*Gambusia affinis*). Instead, other approved methods by the District (e.g., insect growth regulators), should be used to control local mosquito populations here.

In the same context, the use of rodenticides (i.e.: anticoagulants) for controlling introduced rats (*Rattus* spp.), house mice (*Mus musculus*), and California ground squirrels (*Spermophilus beecheyi*) should be prohibited. Instead, localized trapping of rodents should be conducted, if needed.

## **APPENDIX C**

### **Mitigation Monitoring and Reporting Plan**



**Half Moon Bay Corporation Yard Upgrade Project Initial Study / Mitigated Negative Declaration (IS/MND)  
Mitigation Monitoring and Reporting Program**

**Color Codes**



Measure Implemented Prior to Construction or Pending Approval

Measure Implemented During Construction

Measure Implemented Following Construction Completion

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Comments	Responsible Party	Timing / Milestone
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**Biological Resources**

<p><b>BIO-1</b></p>  	<p><b>The following general mitigation measures shall be implemented during the project:</b></p> <p>a. Prior to the start of the project, all construction crew members shall attend an environmental awareness training presented by a qualified biologist. A training brochure describing special-status species, project avoidance and minimization measures, key contacts, and potential consequences of impacts to special-status species and potentially jurisdictional features shall be distributed to the crew members during the training. Trainees shall sign an environmental training attendance sheet. These personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act and the California Endangered Species Act. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site.</p> <p>b. Disturbance to vegetation shall be kept to the minimum necessary to complete the project activities. To minimize impacts to vegetation, a qualified biologist shall work with the contractor to designate the work area and any staging areas as well as delineate areas that shall be avoided with signage and tape. Areas that shall be avoided include Pilarcitos Creek, the impoundment, riparian habitat, and the wildlife corridor. Specifically, the buffer shall be 50 feet outward from the limit of riparian vegetation along Pilarcitos Creek or 100 feet from the top of bank within Pilarcitos Creek (whichever is greater) and 100 feet outward from the impoundment. The identified buffer shall be clearly depicted on any construction plans. Work may occur within these buffer areas under the supervision of a qualified biologist, and shall be limited to removal of the existing materials enclosure and the existing fencing around the impoundment. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the impoundment, associated riparian habitat, and annual grassland to be avoided shall be flagged or fenced.</p> <p>c. All riparian habitat and the 50-foot riparian buffer area to be avoided shall be shown on project design plan sets, and prior to project activities, these areas shall be protected with high-visibility fencing.</p> <p>d. If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the</p>	<p>Prepare environmental awareness training materials and administer environmental awareness training on site. Ensure that all new personnel are trained before they begin work.</p> <p>Minimize disturbance to vegetation. Do not enter buffer areas unless biologist is present.</p> <p>Do not handle wildlife that is encountered during project activities. Wildlife will be allowed to leave the work area of their own accord and without harassment or may be moved by a biologist.</p> <p>Contain, remove, and properly dispose of trash on a regular basis.</p> <p>Minimize disturbance to the minimum necessary to complete the project.</p> <p>Do not allow firearms or pets.</p> <p>Maintain 10 mph speed limit on unpaved roads.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>Prior to / during construction</p>
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	<p>work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits.</p> <p>e. During project activities, all trash that may attract predators such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site. Following construction, trash/construction debris shall be removed from work areas.</p> <p>f. The area of disturbance shall be limited to the minimum necessary to complete the project. Project boundaries shall be clearly demarcated, and these areas shall be outside of sensitive areas.</p> <p>g. No firearms shall be allowed on the project site, except for federal, state, or local law enforcement, or security guards. No pets shall be allowed on the project site.</p> <p>h. Project-related vehicles shall observe a 10 mile-per-hour speed limit in all project areas, except on City and County roads, and state highways; this is particularly important on rainy nights when California red-legged frogs are most active.</p> <p>i. Nighttime construction shall be avoided.</p>			
<p><b>BIO-2</b></p> <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="width: 20px; height: 10px; background-color: #d9ead3; border: 1px solid black;"></div> <div style="width: 20px; height: 10px; background-color: #d9ead3; border: 1px solid black;"></div> <div style="width: 20px; height: 10px; background-color: #d9ead3; border: 1px solid black;"></div> </div>	<p><b>Minimize impacts to special-status amphibians and reptiles:</b></p> <p>a. The City will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species.</p> <p>b. A qualified biological monitor (or as required by project permits) shall be on-site during all project construction activities that may result in take of any special-status species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist exercises this authority, the USFWS and CDFW shall be notified by telephone and electronic mail within twenty-four (24) hours.</p> <p>c. A temporary wildlife exclusion barrier shall be installed at the discretion of the qualified biologist (or as required in project permits). Prior to any ground disturbance in the impact area, the temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to installation of the barrier. The barrier shall be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area,</p>	<p>Ensure that a qualified biological monitor is present during all ground disturbing activities. If a California red-legged frog and San Francisco garter snake is encountered at any time during construction, the contractor will immediately cease work and notify the biologist.</p> <p>Ensure that a wildlife exclusion fencing is installed at the discretion of the biological monitor prior to ground disturbing activities.</p> <p>No work shall occur before the qualified biologist conducts a focused preconstruction survey. The preconstruction survey must occur no more than 24 hour prior to the start of construction.</p> <p>Work should occur during the dry season (June 1 to October 15) to avoid impacts to special-status amphibians and reptiles.</p> <p>No plastic monofilament netting (erosion control matting) will be used during construction.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>Prior to / during construction</p> <p>During operation</p>



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	<p>and shall remain in place until all development activities have been completed. This barrier shall be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.</p> <p>d. Plastic mono-filament netting (erosion control matting), rolled erosion control products, or similar material shall not be used at the project site to prevent trapping California red-legged frogs, San Francisco garter snakes, or other species.</p> <p>e. Within 24 hours of the planned start of project activities, a focused preconstruction survey for sensitive and listed species, including but not limited to California red-legged frog and San Francisco garter snake, shall be conducted by a qualified biologist within the impact area. The qualified biologist shall investigate all potential areas that could be used by the California red-legged frog and San Francisco garter snake for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows. Construction activities shall not take place until the survey is completed.</p> <p>f. Construction materials, including, but not limited to, wooden pallets, BMPs, equipment, or other materials, that are left on the ground for more than 24 hours shall be inspected before and during moving of the materials to prevent potential impacts to animals that may have utilized the materials as a temporary refuge. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods shall be either securely capped prior to storage or thoroughly inspected by the qualified biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the qualified biologist or construction foreman/manager, the protocol in Mitigation Measure BIO-2(h) shall be followed.</p> <p>g. To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the qualified biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the qualified biologist. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by the qualified biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the qualified biologist or anyone else, the steps in Mitigation Measure BIO-2(i) shall be followed.</p> <p>i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease;</p> <p>ii. The foreman and qualified biologist shall be immediately notified; and</p>	<p>Ensure that all pipes, culverts, or similar construction materials are capped. All construction materials left on the ground for more than 24 hours shall be carefully inspected by the qualified biologist prior to moving.</p> <p>Ensure that all steep walled holes or trenches are tightly covered or have an escape ramp placed inside of them to prevent trapping wildlife.</p> <p>Planting of western mosquitofish for mosquito control is prohibited onsite.</p> <p>Pesticide use in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake, and shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations.</p> <p>Rodenticide and herbicide use is prohibited.</p> <p>Construction work shall not occur within 24 hours following a rain event of 0.25 inch or more within a 24-hour period, and a 24-hour dry-out period shall be implemented following such a significant rain event. Ensure a qualified biologist conducts a preconstruction survey for California red-legged frog before project activities restart following a dry-out period.</p> <p>Adhere to all required SMCWPPP BMPs</p> <p>A wildlife corridor will be constructed as part of the project to allow for safe wildlife movement between the impoundment and Pilarcitos Creek. The wildlife corridor construction will take place during dry weather conditions.</p>		

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	<ul style="list-style-type: none"> <li>iii. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow Mitigation Measure BIO-2h for California red-legged frog and Mitigation Measure BIO-2i for San Francisco garter snake.</li> <li>h. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow Mitigation Measure BIO-2h for California red-legged frog and Mitigation Measure BIO-2i for San Francisco garter snake.</li> <li>i. If any California red-legged frogs are found during implementation of Mitigation Measures BIO-2(a), BIO-2(b), BIO-2(c), BIO-2(d), BIO-2(e), BIO-2(f), or BIO-2(g) the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.</li> <li>j. The qualified biologist shall monitor any individual San Francisco garter snake encountered within the impact area, but allow it to leave the impact area on its own. If the qualified biologist determines that the snake cannot leave on its own then the USFWS and CDFW shall be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes shall be handled without explicit agency approval.</li> <li>k. Planting of western mosquitofish (<i>Gambusia affinis</i>) within the impoundment shall be prohibited. Treatment of the impoundment for mosquito larvae by the Mosquito Abatement District will be conducted utilizing alternative treatments approved by the District (e.g., insect growth regulators).</li> <li>l. The use of any pesticides in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the project area, and the depletion of food items on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. Furthermore, pesticide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.</li> </ul>			

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	<p>m. The use of herbicides shall not be permitted unless approved by CDP amendment. Future approval of herbicide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.</p> <p>n. The use of rodenticides (i.e., anticoagulants) for controlling rodents, such as rats (<i>Rattus</i> spp.), house mice (<i>Mus musculus</i>), and California ground squirrels (<i>Spermophilus beecheyi</i>), shall be prohibited. If rodent control is required by the City, localized trapping efforts shall be conducted.</p> <p>o. Construction activities (e.g., grubbing, grading) shall occur during dry weather conditions only, and to the extent feasible, during the dry season (June 1 to October 15) to facilitate avoidance of California red-legged frog and San Francisco garter snake.</p> <p>p. Regardless of the season, construction shall adhere to SMCWPPP BMPs, and no construction shall occur during and within 24 hours following a significant rain event (defined as greater than 0.25 inch in a 24-hour period). Following a significant rain event and the 24-hour drying-out period, a qualified biologist shall conduct a preconstruction survey for California red-legged frog and other sensitive species prior to the restart of any project activities.</p> <p>q. A wildlife corridor shall be constructed as part of the Project and would funnel any potentially dispersing California red-legged frog or San Francisco garter snake into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact California red-legged frog or San Francisco garter snake. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual California red-legged frog and San Francisco garter snake would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent California red-legged frog or San Francisco garter snake from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both California red-legged frog and San Francisco garter snake to provide a safe and suitable movement corridor without any further management actions required.</p> <p>r. The wildlife corridor fencing shall be maintained as a boundary to allow for safe wildlife movement between the impoundment and Pilarcitos Creek by funneling any dispersing wildlife through tunnels beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The wildlife fencing, tunnel, and corridor shall be maintained over the lifetime of its use, and any portion that is observed to be broken or not functioning property shall be repaired immediately by the City.</p>			



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	<p>s. A temporary material may be used for the wildlife fencing, such as ERTEC or similar material, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing, it shall be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife fencing (e.g., chain-link fencing with vinyl slats) or re-assessed for efficacy by a qualified biologist.</p> <p>t. Installation of the wildlife corridor and associated fencing should take place during dry weather conditions to ensure that no dispersing California red-legged frogs or San Francisco garter snakes are trapped in upland areas.</p> <p>u. The wildlife corridor shall be maintained and repaired annually or more frequently as needed. The tunnels beneath the access road shall be inspected to ensure that it is not blocked by vegetation or sediment. Vegetation fuels management within the wildlife corridor shall use low impact methods (such as goat grazing or using hand tools) on an annual basis. Any mechanical maintenance activities (including using hand tools for vegetation maintenance) within the wildlife corridor shall be closely monitored by an approved biologist.</p>			
<p><b>BIO-3</b></p>  	<p><b>Minimize impacts to Pilarcitos Creek and riparian habitat:</b></p> <p>a. The project shall comply with the SMCWPPP, Municipal Regional Stormwater National Pollution Discharge Elimination System (NPDES) Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which shall prevent stream downcutting, riparian bank erosion, or other downstream impacts.</p> <p>b. All spoils, such as dirt, excavated material, debris, and construction-related materials, generated during project activities shall be placed where they cannot enter any drainage ditch, culvert inlet, or nearby vernal marshes. Spoils shall be covered or secured to prevent sediment from escaping. Once the spoil pile is no longer active, it shall be removed from the work area and disposed of lawfully at an appropriate facility.</p> <p>c. All exposed soils in the work area resulting from project activities shall be stabilized immediately following the completion of work to prevent erosion. Erosion and sediment control BMPs, such as silt fences, straw hay bales, gravel or rock-lined drainages, water check bars, and broadcast straw, can be used. BMPs shall be made of certified weed-free materials. Straw wattles, if used, shall be made of biodegradable fabric (e.g., burlap) and free of monofilament netting. At no time shall silt-laden runoff be allowed to enter any drainages or other sensitive areas.</p> <p>d. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 100 feet from any drainages and other water features, including Pilarcitos</p>	<p>Pilarcitos Creek shall be protected from project-generated spoils.</p> <p>Ensure that all exposed soils associated with the project are stabilized immediately following construction completion. Appropriate BMPs shall be deployed prior to and during construction to prevent erosion and/or runoff into potentially jurisdictional drainages.</p> <p>Ensure fueling and maintenance of vehicles and other equipment and staging areas do not occur within 100 feet of drainages, and that such drainages are not contaminated during refueling, maintenance, or staging of materials. Prior to beginning project work, the Contractor shall develop a Spill Response Plan to ensure prompt and effective response to accidental spills. The plan must be submitted to the City of Half Moon Bay before construction commences, and must be kept onsite at all times during construction. Adequate spill clean-up supplies must be kept on site and at-the-ready during construction. The plan will be included in the environmental awareness training.</p>	Construction Contractor / City of Half Moon Bay	Prior to / during construction



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	<p>Creek. Crew members shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, the construction contractor shall prepare a plan to be approved by the City before construction begins to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.</p> <p>e. All exposed surfaces shall be wetted periodically to prevent significant dust.</p> <p>f. All stockpiled soil shall be covered during periods of rain.</p> <p>g. The following BMPs shall be implemented to limit the spread of invasive species into sensitive habitats:</p> <p>i. All ground-disturbing equipment used adjacent to the riparian habitat shall be washed (including wheels, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site;</p> <p>ii. All applicable construction materials used on-site, such as straw wattles, mulch, and fill material, shall be certified weed free;</p> <p>iii. The project shall follow the SMCWPPP and a SWPPP as per the NPDES <i>General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities</i> (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable;</p> <p>iv. All disturbed soils shall be stabilized and planted with a native seed mix from a local source following construction;</p> <p>v. If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) shall not be used in general soil stockpiles and shall not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil shall be disposed of off-site at a landfill.</p>	<p>Reduce potential for dust by wetting exposed surfaces periodically.</p> <p>Reduce potential for sediment loss by covering stockpiled soils during periods of rain.</p> <p>Once the project is complete, ensure that all exposed and/or disturbed surfaces are protected from soil erosion with reseeding and landscaping.</p>		
<p><b>BIO-4</b></p>  	<p><b>Minimize impacts to nesting birds, as required by the Federal Migratory Bird Treaty Act:</b></p> <p>a. If project activities, including, but not limited to, grubbing and grading, are conducted during nesting bird season (generally February 15 to September 15), preconstruction nest surveys shall be conducted in and near the project (within 500 feet for large raptors and 300 feet for all other birds) by a qualified biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the project shall be modified (i.e., a no-work exclusion buffer of appropriate size [to be determined by the qualified project biologist] shall be erected around active nests) and/or delayed as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.</p>	<p>Project activities, including grubbing and grading, should be conducted outside of nesting bird season (February 15 through September 15). If work outside of nesting bird season is not feasible, then ensure a qualified biologist conducts preconstruction nesting bird surveys prior to commencing work.</p> <p>If nesting birds or raptors are observed on site, ensure an appropriately-sized no-work buffer is established around the nest and/or the project is modified and/or delayed as necessary in coordination with the project biologist.</p>	Construction Contractor / City of Half Moon Bay	Prior to / during construction







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	<p>b. If construction activities shall not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project shall be removed prior to the start of the nesting season (e.g., prior to February 15), to the extent feasible. This shall preclude the initiation of nests in this vegetation and prevent the potential delay of the project due to the presence of active nests in these substrates.</p>	<p>If a construction will not start until after start of the nesting season, remove all potential nesting substrates before February 15.</p>		
<p><b>BIO-5</b></p>  	<p><b>Minimize impacts to heritage trees:</b></p> <p>a. During detailed design of the project, removal of trees protected by the City heritage tree ordinance shall be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the project area. Where removal of trees cannot be avoided, the City shall comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.</p>	<p>During detailed design of project, avoid removing protected trees to the extent feasible.</p> <p>Prior to construction, ensure a tree survey is conducted by a certified arborist.</p> <p>For tree removal, comply with the City's heritage tree ordinance, including planting replacement trees.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>Prior to / during construction</p>
<p><b>BIO-6</b></p>  	<p><b>Minimize impacts to roosting bats:</b></p> <p>a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary.</p> <p>b. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal shall begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking forage). Trees shall be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.</p>	<p>Ensure a qualified biologist conducts preconstruction roosting bay survey prior to commencing work.</p> <p>If roosting bats are observed on site, ensure tree removal is conducted with a qualified biologist present.</p> <p>If roosting bats are present, begin removal with low limbs lacking in forage and coordinate removal with qualified biologist to allow roosting bats to vacate the tree.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>Prior to / during construction</p>
<p><b>BIO-7</b></p>  	<p><b>Minimize impacts to dusky-footed woodrat:</b></p> <p>a. Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat shall be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation shall be warranted. If nests are found, then Mitigation Measures b and c shall be implemented.</p>	<p>Conduct a survey for woodrat nests within 7 days of start of construction.</p> <p>Identify a 10-foot buffer area around woodrat nests. Use high-visibility fencing around woodrat nests to keep worker and equipment out of area.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>Prior to / during construction</p>



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**Mitigation Monitoring and Reporting Program**

**Color Codes**

Measure Implemented Prior to Construction or Pending Approval

Measure Implemented During Construction

Measure Implemented Following Construction Completion

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Comments	Responsible Party	Timing / Milestone
	<p>b. Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-foot buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat shall be avoided by the project, high-visibility fencing shall be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.</p> <p>c. If avoidance of occupied nests is not feasible, the woodrats shall be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist shall disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks shall be relocated; these materials shall be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests shall not be less than 20 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.</p>	<p>If avoidance is not feasible, a qualified biologist will relocate the nest.</p>		

**Cultural Resources**

<p><b>CUL-1</b></p> <div style="background-color: #cccccc; width: 20px; height: 20px; margin: 5px 0;"></div>	<p><b>Implement an environmental awareness training program</b></p> <p>Prior to the start of the project, all construction crew members will attend an environmental awareness training. This environmental awareness training will be conducted by a qualified archaeologist and will address cultural situations that may be encountered. An archaeologist will prepare an archaeological brochure to be distributed to the construction crew at the on-site environmental awareness training. The brochure will identify the types of cultural resources that may be encountered and the procedures to be followed in the event of accidental discovery.</p>	<p>Prior to commencing work, ensure that construction personnel are trained and informed of how to identify and avoid historical and archaeological resources in the event that they are exposed during construction. Such training may be included in the environmental awareness training prepared for the project per BIO-1.</p> <p>If archaeological or historical resources are discovered during construction, the Contractor shall ensure that work is immediately stopped in the vicinity of the find, and the City of Half Moon Bay is immediately notified. Discovered resources must be left in place as they were found: do not touch, collect, or otherwise disturb found resources.</p> <p>Work shall not resume in the vicinity of any discovered resources until the resources are fully evaluated by the archaeologist, and the City of Half Moon Bay approves the continuation of work in the vicinity of the find.</p> <p>Ensure any additional cultural work such as testing or data recovery is implemented as required.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>Prior to construction</p>
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<p><b>CUL-2</b></p> 	<p><b>Implement a cultural resources monitoring plan:</b></p> <p>The project will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities. The CRMP shall include provisions for stop-work by the archaeologist, ownership and proper handling of archaeological resources upon and following discovery, reporting format and frequency, and a project specific communications plan will need to be completed prior to start of work.</p>	<p>Contract with a cultural resources monitor to be present during ground disturbing activities.</p> <p>If archaeological or historical resources are discovered during construction, the Monitor and/or Contractor shall ensure that work is immediately stopped in the vicinity of the find, and the City of Half Moon Bay is immediately notified. Discovered resources must be left in place as they were found: do not touch, collect, or otherwise disturb found resources.</p> <p>Work shall not resume in the vicinity of any discovered resources until the resources are fully evaluated by the archaeologist, and the City of Half Moon Bay approves the continuation of work in the vicinity of the find.</p> <p>Ensure any additional cultural work such as testing or data recovery is implemented as required.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>During construction</p>
<b>Geology and Soils</b>				
<p><b>GEO-1</b></p> 	<p><b>Avoid and/or reduce impacts to unknown paleontological resources:</b></p> <p>In the unlikely event that a paleontological resource is discovered, the project applicants shall comply with PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. To be consistent with these PRC Sections, in the event that paleontological resources are exposed during construction, work in the immediate vicinity of the find must stop until a qualified paleontologist can evaluate the significance of the find. Construction activities may continue in other areas. If the discovery proves significant under the provisions of CEQA, the paleontologist shall prescribe, and the project Applicants shall implement, additional measures such as testing or data recovery to avoid impacts to the resources.</p>	<p>Ensure compliance with Public Resources Code (PRC).</p> <p>Stop work in the immediate vicinity of any discovered paleontological resources until a qualified paleontologist evaluates the significance of the discovery.</p> <p>Ensure any additional paleontological work such as testing or data recovery is implemented as required.</p>	<p>Construction Contractor / City of Half Moon Bay</p>	<p>During construction</p>