Bolinas Avenue Storm Drain Improvements (Phase 2)

Town of Ross, Marin County, California

Initial Study/Mitigated Negative Declaration

Town of Ross
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Acronyms and Abbreviations

AB	Assembly Bill
APE	Area of Potential Effects
ARB	Air Resources Board
AWE	Area West Environmental, Inc.
BAAQMD	Bay Area Air Quality Management District
BMPs	Best Management Practices
BSA	Biological Study Area
CAAQS	California Ambient Air Quality Standards
CalFire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CCC	California Central Coast
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CGS	California Geological Survey
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRHR	California Register of Historical Resources
CWA	Clean Water Act
dBA	A-weighted decibel
dbh	diameter at breast height
DPM	diesel particulate matter
DPS	distinct population segment
DTSC	California Department of Toxic Substances Control
ESCP	Erosion and Sediment Control Plan
EFH	Essential Fish Habitat
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
EPA	Environmental Protection Agency
FCMCW	Friends of Corte Madera Creek Watershed
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FP	fully protected

GHG	greenhouse gas
HDPE	High Density Polyethylene
IPaC	Information for Planning and Consultation
IS/MND	Initial Study/Mitigated Negative Declaration
L_{max}	maximum sound level
MBTA	Migratory Bird Treaty Act
MGSA	Marin General Services Authority
MMRP	Mitigation Monitoring and Reporting Program
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NMFS	National Marine Fisheries Service
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PPV	peak particle velocity
ROW	Right-of-Way
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
TACs	toxic air contaminants
Town	Town of Ross
UCMP	University of California Museum of Paleontology
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WEAT	Worker Environmental Awareness Training
WUI	Wildland Urban Interface

1.0 Introduction

1.1 Project Overview

The Town of Ross (Town) has proposed improvements to the existing public storm drain system to alleviate flooding issues at the Bolinas Avenue and Richmond Road intersection (Project or proposed Project).

The existing storm drain system carries stormwater runoff from the Richmond Road and Bolinas Avenue intersection to the outfall under the Winship Avenue Bridge at San Anselmo Creek. The Town intends to increase stormwater accommodation by adding approximately 630 feet of a new 42-inch-diameter, High Density Polyethylene (HDPE) double wall (Type S) pipe from Bolinas Avenue to a new outfall on San Anselmo Creek immediately downstream of the Sir Francis Drake Boulevard Bridge. The new creek outfall would have a rock rip-rap apron. Sidewalks and other affected structures (existing bus stop, benches, and curbs) would be removed and rebuilt or replaced by the Project.

1.2 Purpose of this Document

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to disclose environmental impacts that may result from the proposed Project. This IS/MND assesses the environmental effects of the proposed Project, as required by California Environmental Quality Act (CEQA) and is in compliance with state CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000, et seq.), which requires that all State and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

1.3 Public Review Process

This IS/MND is being circulated for a 30-day public review period to all individuals who have requested a copy and to appropriate resource agencies. This report has been filed with the State Clearinghouse and is available on the CEQA web portal (ceqanet.opr.ca.gov) and the Town's website (www.townofross.org/community/page/Bolinas-ISMND). A Notice of Intent is also being distributed to all property owners of record identified by the Assessor's office as having property within 300 feet of the proposed Project. The NOI identifies where the document is available for public review and invites interested parties to provide written comments for incorporation into the final IS/MND.

1.4 Town Approval Process

After comments are received from the public and reviewing agencies, the Town of Ross must adopt the IS/MND and approve the mitigation monitoring and reporting program (MMRP) (Appendix A) before it can approve the proposed project.

1.5 Organization of the Initial Study and Mitigated Negative Declaration

This IS/MND is organized into the following chapters:

Chapter 1 – Introduction: provides summary information about the proposed project, describes the public review process for the IS/MND, and includes the CEQA determination for the proposed project.

Chapter 2 – Project Description: contains a detailed description of the proposed Project.

Chapter 3 – Environmental Checklist: provides an assessment of proposed Project impacts by resource topic. Mitigation measures, if necessary, are noted following each impact discussion.

Chapter 4 – List of Preparers: identifies the individuals who contributed to the environmental document.

Chapter 5 – References Cited: identifies the information sources used in preparing this document.

Appendices – Contains the MMRP, representative site photographs, background data on biological resources, and Project plans.

1.6 Environmental Factors Potentially Affected

Impacts to the environmental factors below are evaluated using the checklist included in Chapter 3. The Town determined that the environmental factors checked below would be less than significant with implementation of mitigation measures. It was determined that the unchecked factors would have a less-than-significant impact or no impact.

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

DETERMINATION: On the basis of this initial evaluation:

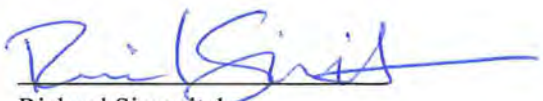
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ 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 proposed project have been made by or agreed to by the proposed project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all 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.



Richard Simonitch
Public Works Director/Town Engineer

2/3/2025
Date

2.0 Project Description

2.1 Project Location

The Project is located within the Town of Ross, in Marin County, California. The Project site follows the western side of Sir Francis Drake Boulevard from the intersection of Bolinas Avenue south to the Sir Francis Drake Boulevard Bridge over San Anselmo Creek (Figure 1). The Project site, which encompasses all potential areas of ground disturbance including equipment and materials staging areas, excavation limits, and construction access; is 0.89 acre in size and located entirely within the *San Rafael* U.S. Geological Survey (USGS) 7.5-minute quadrangle map in Township 2 North, Range 6 West, Section 31, Mount Diablo Meridian (Figure 2). Surrounding land uses include residences and commercial businesses.

2.2 Setting

The Project site occurs within a developed residential area with commercial uses north of the Bolinas Avenue and Sir Francis Drake Boulevard intersection. Natural features include San Anselmo Creek and its associated riparian corridor. The creek banks are generally steep and deeply cut below the floodplain, with a riparian area comprised of both native and non-native vegetation. To prevent erosion, the creek has been semi-channelized in many locations where the banks have been reinforced with rock slope protection (RSP), concrete, and retaining walls. Representative photos of the Project site are provided in Appendix B.

2.3 Project Purpose and Need

Bolinas Avenue, with special concern for the intersection of Bolinas Avenue and Richmond Road (located 800 feet west of Sir Francis Drake Boulevard), has suffered from inadequate storm drainage infrastructure for many decades, which results in stormwater flooding of residences, the roadway, and sidewalks during 5-year (or larger) storm events and creates a public safety issue.

Bolinas Avenue at the Richmond Road intersection is a chronically flooded area primarily because the intersection is located at an elevation that is lower than the peak water surface elevation in San Anselmo Creek, which consistently experiences flooding. Prior to 2019, water from the creek during high water stages backed up into the existing storm drain pipe and prevented outflow from the existing storm drain, flooding the Bolinas Avenue and Richmond Road intersection. In 2019, the Town installed a flap gate at the existing outfall near Winship Avenue Bridge to prevent creek water from entering the storm drain pipe; however, when the flap gate closes, water cannot flow out of the system, resulting in continued flooding.

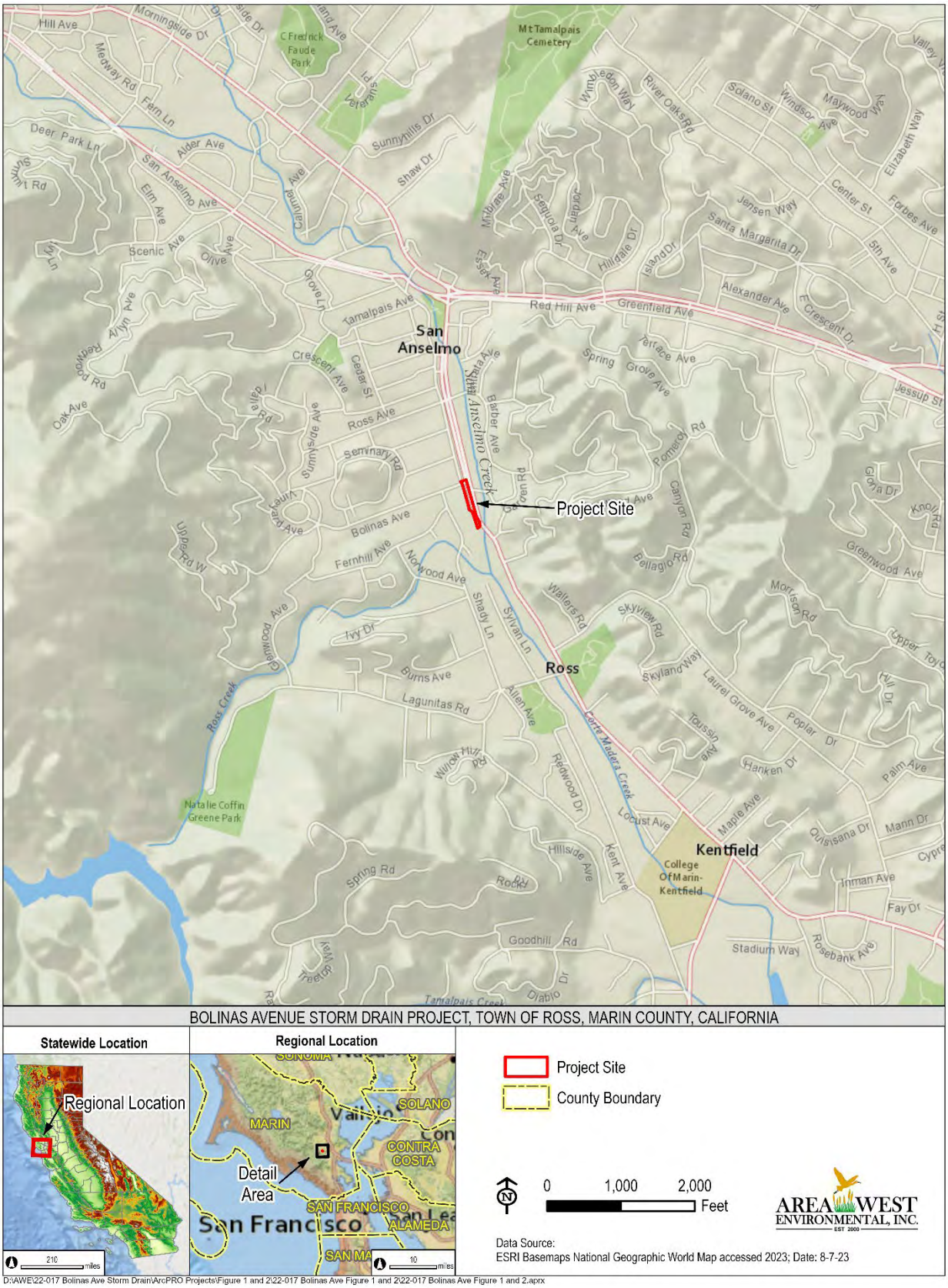


Figure 1. Project Vicinity

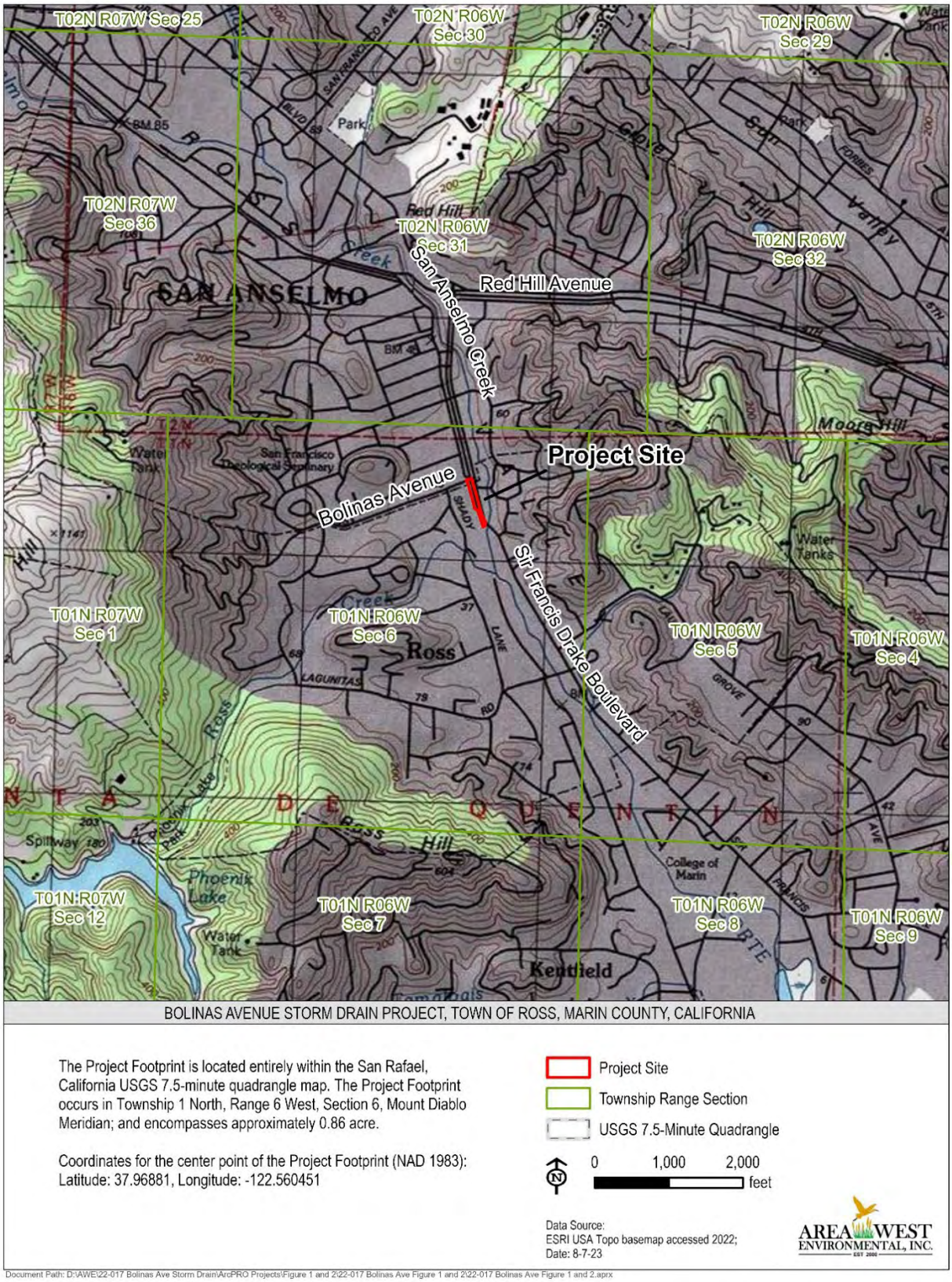


Figure 2. Project Location and Topography

The purpose of the Project is to add additional storm runoff drainage capacity to decrease frequency of flooding and improve public safety. The proposed Project would intercept and direct water from the existing storm drain system to a new outlet on San Anselmo Creek, thereby alleviating the source of the system back up, reducing the flood frequency at the Bolinas Avenue and Richmond Road intersection, and restoring functionality to the storm drain system on Bolinas Avenue (Harrison Engineering Inc., 2014).

2.4 Project Design

The Town intends to increase the capacity of the existing stormwater drainage system by adding approximately 630 feet of a new 42-inch-diameter, HDPE double wall (Type S) pipe from Bolinas Avenue to a new outfall on San Anselmo Creek immediately downstream of the Sir Francis Drake Boulevard Bridge (Figure 3).

The Project would require trenching of native ground, existing roadbed, existing gravel driveway and sidewalk below and adjacent to southbound Sir Francis Drake Boulevard. The new pipe would be buried between 10.7 feet and 14.5 feet below the ground surface, requiring approximately 6 feet of horizontal excavation and a maximum of 15 feet of vertical excavation for pipe installation.

The Project would require the temporary relocation or support of sewer laterals, water service lines, gas service lines, and AT&T underground conduit. Temporary relocation may be required to continue service. Sidewalks and other affected structures (e.g., existing bus stop, benches, and curbs) would be rebuilt by the Project. It is estimated that four trees would be removed as a result of Project implementation.

The new pipe would be installed with a fall rate of 0.003 (0.3 percent slope) until reaching the proposed outfall at San Anselmo Creek. At the outfall, the Project would construct a 4.5-foot-thick, 360 square-foot rock riprap apron, also described as RSP, with hydroseeded soil cover to fill the rock voids. The apron would extend approximately 5 feet below the existing stream bed and would be necessary to prevent undercutting and erosion of the bank (Figure 4).

The Project construction would include the following steps:

- Implement Traffic Control Plan and set up construction staging area and traffic/pedestrian direction signage.
- Remove trees (4 total) and clear shrubs.
- Remove existing guard rail (103 linear feet) along Sir Francis Drake Boulevard for equipment access.
- Remove roadside signs and radar speed feedback sign.
- Remove and reconstruct bus shelter with bench and sign and adjacent concrete bench.
- Excavate sidewalk/road/driveway/native ground for pipe installation.

- Support or temporarily relocate utilities: gas lines, AT&T conduit, sewer laterals, and water service lines.
- Establish stream bed work area and install temporary creek diversion system (e.g., cofferdam).
- Install 630 linear feet of 42-inch HDPE (type S) drainage pipe.
- Excavate outlet and install rock riprap apron around pipe outfall.
- Key in rock riprap apron 5 feet below existing ground surface.
- Fill voids in rock riprap apron with hydroseeded soil.
- Backfill and resurface/reconstruct excavated areas.
- Revegetate/stabilize stream bank around rock riprap apron.
- Construct new guard rail for bridge approach.
- Replace road signs and bus shelter.
- Restripe roadway.

The proposed Project components are shown in Figure 3 and the Project elements are discussed in greater detail in the following sections.

2.4.1 Traffic Control

The Project would minimize traffic impacts to residents and visitors. There will be no road closure. Traffic control for lane closure on eastbound Bolinas Avenue and southbound Sir Francis Drake Boulevard may be required; however, a minimum of one lane will be kept open at all times. All traffic control will accommodate pedestrians and cyclists. During construction, the contractor will provide for continuous vehicular and pedestrian ingress and egress to all private property adjacent to the work area.

2.4.2 Construction Staging

Construction equipment parking and spoils loading and receiving is expected to occur within the Sir Francis Drake Boulevard right of way and adjacent shoulder areas.

2.4.3 Utilities

Utilities within the Project site include overhead electrical and communication lines, and underground water, stormwater, natural gas, and sanitary sewer lines. Potholing was conducted to identify the precise locations of underground utilities. The Project will not require the permanent relocation of underground utilities, however, temporary relocation may be required to maintain service during construction.. Coordination with all utility owners will occur during final design of the Project.

Figure 3. Proposed Project

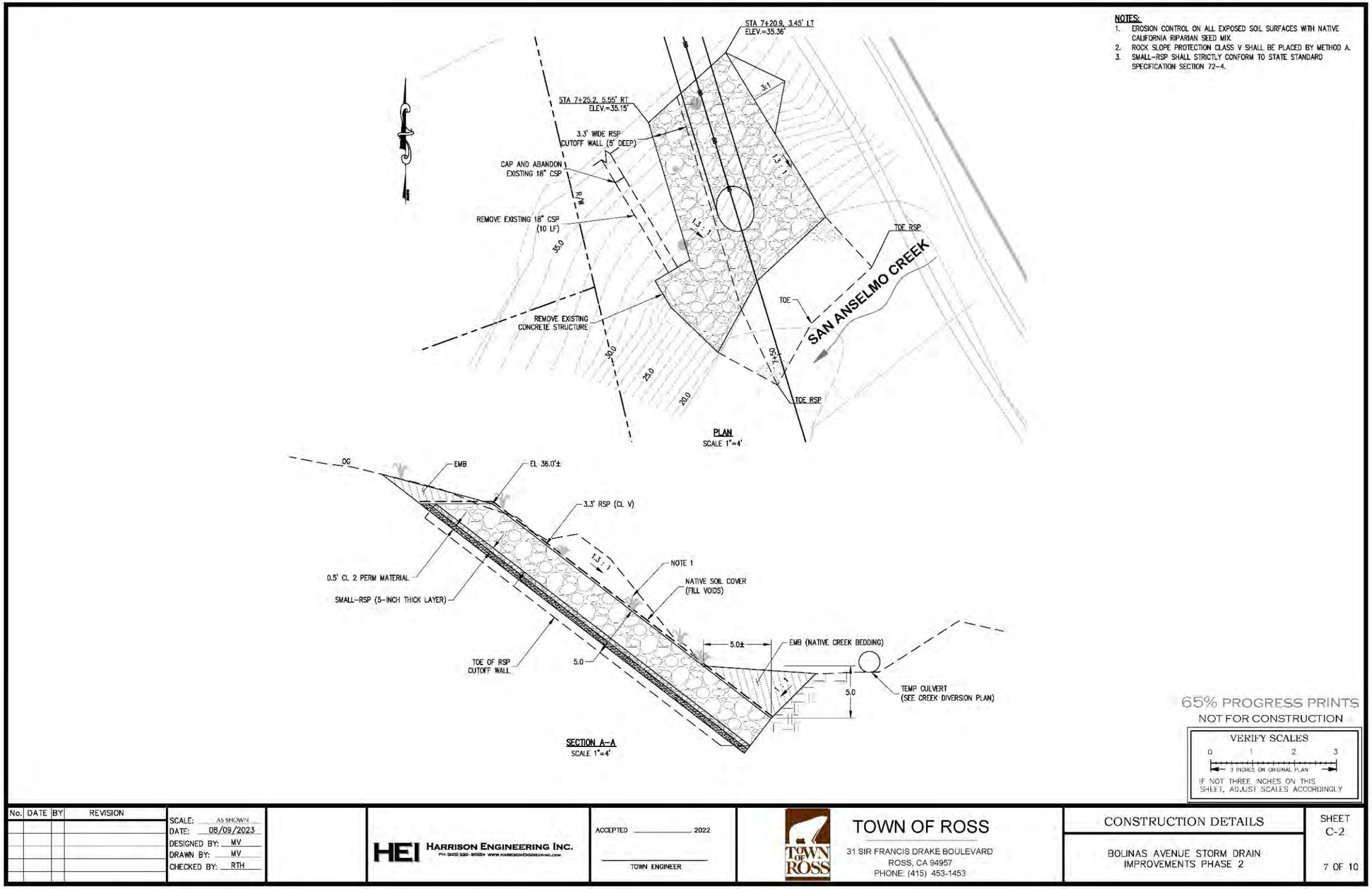


Figure 4. Outfall Design

2.4.4 Construction Schedule and Equipment

Construction is currently planned for 2025. Active pipe trenching would occur between May 1 and October 15, 2025; all work within San Anselmo Creek would be limited to June 15 through October 15. Construction will be limited to Monday through Friday from 8am to 5pm. The pipe will be excavated and laid down in stages, with each stage (timing and extent/length) to be determined by the contractor. Construction equipment would vary depending on the stage; for example, concrete trucks would only be required when replacing concrete sidewalk sections and casting manhole bases. In general, pneumatic hammers, an excavator, front end loader, compactor/roller, dump trucks, compactors, and concrete trucks would be required to construct the Project (Table 1). Other equipment may also be employed during Project construction. Throughout the construction, limited amounts of spoils would be stored along portions of the storm drain alignment where appropriate for concurrent backfill operations. Spoils that would not be used for backfill would be removed by the contractor.

Table 1. Proposed Construction Equipment

Equipment	Construction Purpose
Asphalt concrete paver	Paving roadways
Backhoe	Soil manipulation
Bobcat	Fill distribution
Concrete ready-mix trucks	Sidewalk construction
Dump truck	Fill material delivery/surplus removal
Excavator	Soil manipulation; trenching
Front –end loader	Dirt or gravel manipulation
Concrete/Pavement scarifier	Roadway surface/ sidewalk removal
Pneumatic Hammers	Roadway surface/ sidewalk removal
Bobcat/Grader	Ground leveling
Paver	Roadway paving
Roller/compactor	Earthwork construction
Truck with seed sprayer	Landscaping; hydroseeding
Water truck	Dust control, compaction

2.5 No-Project Alternative

The No-Project Alternative maintains the existing public storm drainage system. The existing drainage system was upgraded in 2019. The 2019 improvements helped to alleviate flooding; however, the project was unable to achieve a 10-year storm level of protection for future conditions. Under the No-Project Alternative, the existing drainage and flooding issues at the intersection of Bolinas Avenue and Richmond Road would remain substandard; homes would continue to flood, and traffic and safety conditions would not be improved.

2.6 Permits and Approvals Needed

Upon completion of final design for the proposed Project, the following agencies will be contacted to obtain their jurisdictional permits or approvals.

- U.S. Fish and Wildlife Service (USFWS) – Federal Endangered Species Act Section 7 consultation
- National Marine Fisheries Service (NMFS) - Federal Endangered Species Act Section 7 consultation
- San Francisco Bay Regional Water Quality Control Board (RWQCB) - Clean Water Act, Section 401 Water Quality Certification
- U.S. Army Corps of Engineers (USACE) - Clean Water Act, Section 404 Nationwide Permit Authorization
- California Department of Fish and Wildlife (CDFW) - California Fish and Game Code, Section 1602 Streambed Alteration Agreement

3.0 Environmental Checklist

The Environmental Checklist form, from Appendix G of the State CEQA Guidelines, is used to make one of the following conclusions for impacts from the proposed project:

- A conclusion of ***no impact*** is used when it is determined that the proposed project would have no impact on the resource area under evaluation.
- A conclusion of ***less than significant impact*** is used when it is determined that the proposed project's adverse impacts to a resource area would not exceed established thresholds of significance.
- A conclusion of ***less than significant impact with mitigation*** is used when it is determined that mitigation measures would be required to reduce the proposed project's adverse impacts below established thresholds of significance.
- A conclusion of ***potentially significant impact*** is used when it is determined that the proposed project's adverse impacts to a resource area potentially cannot be mitigated to a level that is less than significant.

This checklist identifies physical, biological, and community factors that might be affected by the proposed Project. In many cases, background studies performed in connection with the Project indicate No Impacts and therefore do not require further discussion. Where there is a need for clarifying discussion, the discussion is included following the applicable checklist questions. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the Project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact
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 a publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	Less than Significant Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

Environmental Setting

The proposed Project is located within the Town of Ross, Marin County. Sir Francis Drake Boulevard is a major thoroughfare that carries traffic generally north-south within the Project site. Bolinas Avenue is the northern extent of the Project site and serves as the border between the Town of Ross to the south and the Town of San Anselmo to the north. The majority of the Project site is a single-family neighborhood identified as Area C (Traditional Neighborhood) under the General Plan. The northwest corner of the Bolinas Avenue/Sir Francis Drake Boulevard intersection is zoned for general commercial and a liquor store and a gym currently occupy the building. On the southwest corner of the Bolinas Avenue/ Sir Francis Drake Boulevard intersection, there is a large parking lot that serves as overflow parking for Saint Anselm Catholic Church, a historic building located on Bolinas Avenue a block west of the intersection. Sir Francis Drake Boulevard is a bus route and a bus shelter with a concrete bench is located on the sidewalk adjacent to the church parking lot. Sir Francis Drake Boulevard crosses San Anselmo Creek with a concrete bridge near the southern end of the Project site. At the bridge approach, a metal guard railing separates the road from the creek bank behind residential fences. Though Sir Francis Drake Boulevard is not a designated or eligible scenic route, the Sir Francis Drake Boulevard Bridge over San Anselmo Creek, built in 1909, is considered eligible for the National Register of Historic Places (McMorris 2004). The narrow riparian corridor of San Anselmo Creek can be seen from the bridge on Sir Francis Drake Boulevard. The elevation within the Project is 36 ft above mean sea level. The topography is flat. Representative photographs of the Project site are provided in Appendix B.

The visual character of the Project site is developed/residential and has a small town feel. The scale and quality of architecture, low density of development, tree-covered hills, winding creek,

and landscaped yards contribute to the small town character. Sir Francis Drake Boulevard in the project vicinity is lined with homes and fences, where homes are often set back from the road and set among tall trees with extensive yard and streetside landscaping that is visible to passing vehicles and pedestrians.

Impacts and Mitigation Measures

a and b) Would the project have a substantial adverse effect on a scenic vista or substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

The proposed Project would result in minor visual changes along Sir Francis Drake Boulevard. During construction, the presence of traffic control, construction equipment, and temporary removal of sidewalk, guardrail, bus shelter, and bench would temporarily change views for travelers using Sir Francis Drake Boulevard and Bolinas Avenue. These changes are temporary and the existing facilities, including the bus shelter, bench, sidewalk, and guardrail, would be replaced at the end of construction. The Project would require the permanent removal of four trees and multiple ornamental shrubs along Sir Francis Drake Boulevard and near the bridge to provide equipment access. Within the context of the heavily wooded neighborhood around Sir Francis Drake Boulevard, the removal of the four trees would have a small and negligible impact on the existing visual character of Sir Francis Drake Boulevard.

Neither Bolinas Avenue nor Sir Francis Drake Boulevard are a designated Scenic Road and do not provide scenic views or vistas in the Project site. The nearest scenic highway is US 101 through Marin City, which is an "officially designated" state scenic highway and is located about 8.7 miles south of the Project (California Department of Transportation [Caltrans] 2020a). The proposed Project is not visible from US 101. The Project would not affect scenic resources within a state scenic highway or diminish the views that make US 101 eligible for scenic status. The Project will have no direct impact on the historic church or bridge. Therefore, the Project would have ***no impact*** on a scenic vista or scenic highway.

Mitigation Measures: None required.

c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or the quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The Project is the installation of an underground storm drain within the road right-of-way and would not affect zoning requirements or regulations governing scenic quality. The proposed Project will comply with the Town's goals, policies, and strategies with regards to public roads and surrounding planned land use development. Relevant Town goals from the Ross General Plan

(Town of Ross 2007-2025) and adopted Town code sections are discussed further in Section 3.11, Land Use.

The Town of Ross' Tree Protection Ordinance (Municipal Code Chapter 12.24.080) requires that a tree permit be obtained to alter or remove any trees greater than 1 inch diameter at breast height (dbh) in the public right-of-way, greater than 6 inches dbh on unimproved parcels, and/or any significant or protected trees, as defined by the ordinance, on improved parcels. The Project would comply with the Tree Protection Ordinance.

The Project will comply with Town goals and regulations in maintaining the existing scenic character along Sir Francis Drake Boulevard. Therefore, the impact would be considered ***less than significant.***

Mitigation Measures: None required.

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

The proposed Project would not include installation of new lighting elements in an area in which there is currently no lighting. Night construction work is not planned. Therefore, the Project would have ***no impact*** on light or glare.

Mitigation Measures: None required.

3.2 Agriculture and Forestry Resources

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 Department 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

Question	CEQA Determination
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?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
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))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
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?	No Impact

Environmental Setting

No lands in the Project site are designated or zoned for Agriculture Preserve, Timber Lands, or are associated with an executed Williamson Act contract.

Impacts and Mitigation Measures

a and b) Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural uses? Would the Project conflict with any existing zoning for agricultural use, or a Williamson Act contract?

As described above, the Project site does not contain any Important Farmlands as identified by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP, 2022), parcels with an active Williamson Act contract, or lands designated as Forest or Timberlands. Additionally, the Project would modify the existing municipal storm drain system, with construction activities concentrated within and directly adjacent to the existing roadway, thus remaining consistent with existing development and current zoning and land use designations.

Therefore, the Project will not result in the conversion of Important Farmland, Timberland/Forest resources or encourage the non-renewal or cancellation of Williamson Act contracted lands. ***No impact*** would occur.

Mitigation Measures: None required.

c. and d. Would the Project conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production; or result in the loss of forest land or conversion of forest land to non-forest use?

There is no forestland, timberland, or areas zoned for timberland production in the proposed Project vicinity. ***No impact*** would occur.

Mitigation Measures: None required.

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?

The Project would not induce growth or otherwise result in changes that could result in conversion of agricultural or timberlands. ***No impact*** would occur.

Mitigation Measures: None required.

3.3 Air Quality

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:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact
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?	Less than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant Impact

Environmental Setting

The U.S. Environmental Protection Agency (EPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called "criteria" air pollutants because standards have been established for each of them to meet specific public health and welfare criteria. These air pollutants include ozone, particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and nitrogen dioxide.

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network of air quality monitoring stations to measure the ambient concentrations of criteria air pollutants. Air quality emission data is also compared to the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). The Project site is in a region designated as non-attainment of the CAAQS (i.e., ozone, PM_{10}, and $PM_{2.5}$) and NAAQS (i.e., ozone and $PM_{2.5}$) (BAAQMD, 2017).

The BAAQMD has established thresholds of significance for exposure to toxic air contaminants (TACs) based on the projected increase in human health risk. Projects that would result in increased cancer risk of greater than 10 in a million or increased noncancer risk greater than a Hazard Index of 1.0 are considered to have a significant impact. In addition, an increase in annual average ambient $PM_{2.5}$ concentrations in excess of 0.3 micrograms per cubic meter would be considered a significant impact. The BAAQMD recommends that lead agencies assess the incremental TAC exposure risk to all sensitive receptors within a 1,000-foot radius of a project's fence line.

The dose to which receptors are exposed is the primary factor affecting health risk from exposure to TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of

sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as diesel particulate matter [DPM]) that have only cancer or chronic non-cancer health effects. However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the Project (OEHHA, 2015).

Impacts and Mitigation Measures

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

No increase in long-term air pollutant emissions is anticipated since the Project is a storm drain construction project and would not increase roadway capacity or convert land uses. Because no new long-term regional emissions would result from implementation of the proposed Project, the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. ***No impact*** would occur.

Mitigation Measures: None required.

b. 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?

The proposed Project is the installation of a new municipal storm drain. No operational air quality emissions would occur.

Construction of the proposed Project would generate temporary criteria pollutant exhaust emissions through the use of construction equipment, such as excavators, and through vehicle trips generated from worker vehicles and dump trucks traveling to and from the Project site during the estimated 5 months of construction. In addition, small amounts of fugitive dust emissions could result from demolition of the existing roadway and sidewalks and various soil-handling activities. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly controls fugitive dust and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent (BAAQMD, 2010). The BAAQMD has identified eight *Basic Construction Mitigation Measures* to control fugitive dust emissions from construction activities for all Projects and 13 *Additional Construction Mitigation Measures* for all Projects where construction-related emissions would exceed one or more of the BAAQMD's significance thresholds (BAAQMD, 2017).

Impacts to air quality from emissions generated during construction would be modest due to the small construction footprint and the short construction duration. The proposed Project's contribution of fugitive dust and ozone precursors to the region, which is in nonattainment, would be ***less than significant.*** Nevertheless, the Project would implement BAAQMD-recommended construction BMPs, which require the use of dust and engine emission control measures during the construction process.

Mitigation Measures: None required. The following measure is recommended to further reduce construction emissions.

Mitigation Measure AIR-1: Implement BAAQMD Basic Construction Measures.

To limit dust, criteria pollutants, and precursor emissions associated with construction, the construction contractor shall ensure the following BAAQMD-recommended *Basic Construction Measures* shall be implemented and included in all contract specifications for components constructed under the proposed Project:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and 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 roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- The contractor shall post a publicly visible sign with the telephone number and person to contact at the Town 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.

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

For the purposes of this air quality analysis, sensitive receptors are defined as facilities and land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include residential

areas, schools, hospitals, and daycare centers. Approximately eight residences are located directly adjacent to the Project site, with an additional eight residences located across Sir Francis Drake Boulevard from the Project site and additional residences located throughout the surrounding neighborhood. The houses located along Sir Francis Drake Boulevard are located more than 50 feet from the roadway and the roadway is lined with privacy fencing, mature trees, and vegetation.

The nearest school and daycare facility to the Project site are the Wade Thomas Elementary School located at 150 Ross Avenue (approximately 0.34 miles from the Project site) and the Ross Cottage Nursery School located at 7 Shanley Lane (located approximately 500 feet from the Project site). The nearest hospitals are the Kentfield Hospital and the Kaiser Permanente San Rafael Medical Center, both located several miles from the Project site.

Project operations (a new functioning storm drain) would not result in new TAC emissions. However, Project construction activities would result in emission of DPM from use of diesel-powered trucks and equipment. DPM is considered to be a TAC, with both carcinogenic and noncarcinogenic health effects. The nearest sensitive receptors to the Project site are the eight residences located on the west side of Sir Francis Drake Boulevard.

Construction-related activities are expected to last up to 5 months, with the level of activity and equipment use varying depending on the specific construction stage. Implementation of the dust and ozone precursor emission reducing measures under **Mitigation Measure AIR-1** would result in a reduction of DPM and $PM_{2.5}$ emissions. With DPM emissions considered minor due to the short exposure time, the proposed Project would not substantially increase cancer or non-cancer health risks for nearby sensitive receptors. In addition, the privacy fencing, mature trees, and vegetation located between the Project site and residential properties create a buffer for TACs and fugitive dust that would be generated by construction. The Project would have a ***less-than-significant impact***.

Mitigation Measures: None required.

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

Project operations (storm drain) would not result in new sources of odor. Minor sources of odors would be present during construction from diesel engines and paving, which may be considered offensive to some individuals. Implementation of **Mitigation Measure AIR-1** would minimize idling time of diesel engines and the resulting odors. Because odors would be temporary and would disperse rapidly with distance from the source, construction-generated odors would not result in frequent objectionable odorous emissions. This impact is ***less than significant***.

Mitigation Measures: None required.

3.4 Biological Resources

Would the Project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or National Marine Fisheries Service?	Less than Significant Impact with Mitigation Incorporated
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 Wildlife or U.S. Fish and Wildlife Service?	Less than Significant Impact
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?	Less than Significant Impact
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?	Less than Significant Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less than Significant Impact
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?	No Impact

Environmental Setting

This section describes biological resources in the Project site and evaluates potential impacts on such resources as a result of Project implementation. To determine the biological resources that may be subject to Project impacts, Area West Environmental, Inc. (AWE) biologists reviewed data sources and completed field surveys. Results of those studies are presented in Appendix C and summarized here.

Biological field surveys were conducted on August 23, 2022, May 12, and June 27, 2023, within the Biological Study Area (BSA). The BSA encompasses the Project site plus the existing bridge and the San Anselmo Creek bed directly under the bridge deck (extending approximately 50 linear feet north and 75 linear feet south of the bridge deck). Field surveys consisted of habitat mapping, wildlife and botanical surveys, and wetland delineation fieldwork to determine potential waters of the U.S. and waters of the State.

Physical Conditions

The Project is located in the urban area of the Town of Ross in Marin County. The BSA includes riparian habitat both upstream and downstream from the proposed outfall within an area of residential property. The Project is in the lower reaches of San Anselmo Creek where the corridor

is heavily altered from decades of grazing, logging, farming, and ultimately urbanization. To prevent erosion, the creek has been semi-channelized in many locations where the banks have been reinforced with RSP, concrete, and retaining walls. The BSA is located at elevations between approximately 25 and 40 feet above mean sea level in an area that gently slopes down towards San Anselmo Creek with steeper slopes immediately adjacent to the creek.

Habitat Types

Urban, perennial stream (San Anselmo Creek), and California bay forest and woodland habitat types were identified within the BSA (Figure 5). The following sections describe each habitat type observed within the BSA. A full list of observed species can be found in Appendix C.

Urban

The BSA is dominated by urban habitat. Urban portions of the BSA are characterized by the presence of anthropogenic features, including Sir Francis Drake Boulevard, Bolinas Avenue, single-family residences, and their associated ornamental plantings. Sir Francis Drake Boulevard is a major arterial roadway that sees a high amount of both vehicle and pedestrian traffic. This habitat is dominated by ornamental and non-native species with some planted native species such as coast redwood (S*equoia sempervirens*) and coast live oak (*Quercus agrifolia*).

Perennial Stream

A perennial stream (San Anselmo Creek) flows generally from north to south through the BSA, passing under the Sir Francis Drake Boulevard Bridge. In the BSA, San Anselmo Creek is a low-gradient perennial stream characterized by lateral scour pool and riffle sequences. This reach is heavily impacted by channel incision and bank armoring. There are two storm drain outlets on the western bank that drain into the creek within the BSA. Within the BSA, the substrate of the creek bed generally consists of gravel and coarse sands in pool sections with cobbles and gravels in riffle sections. The creek maintains some flow for most or all of the year in most years. The perennial stream is primarily unvegetated. The stream is identified as a water of the U.S. and state.

California Bay Forest and Woodland

The riparian habitat associated with and located adjacent to both sides of San Anselmo Creek in the BSA is California bay forest and woodland. Most of this habitat consists of woodland where California bay (*Umbellularia californica*) is the dominant species.

Habitat Connectivity – Established Native Resident or Migratory Wildlife Corridors

San Anselmo Creek joins Ross Creek to form the headwaters of Corte Madera Creek approximately 600 feet south of the BSA. Corte Madera Creek eventually enters a tidal marsh at Kentfield before connecting to the San Francisco Bay between the City of Larkspur and Town of Corte Madera. San Anselmo Creek is an important dispersal and migration corridor for wildlife.

Figure 5. Vegetation and Habitat Types in the BSA

Most significantly, San Anselmo Creek is used for fish passage between the lower estuarine reaches of Corte Madera Creek and the San Francisco Bay and the upper stream reaches of San Anselmo Creek and its tributaries. There are no barriers to fish passage downstream of the BSA; however, several temporal barriers (impassable to all fish some of the time) impede movement of anadromous fish between spawning and summer rearing habitat in Corte Madera Creek and its tributaries, including San Anselmo Creek. These include a poorly designed fish ladder immediately upstream of the concrete channel that runs through Ross and Kentfield and several culverts and low dams (Friends of Corte Madera Creek Watershed [FCMCW] 2017).

Special-Status Species

San Anselmo Creek offers suitable habitat to a number of special-status species. Based on a pre-survey review of existing information including a search of the CDFW, California Native Plant Society, USFWS, and NMFS species lists, and species distribution and habitat requirements data, 12 special-status wildlife species were identified as having the potential to occur within or immediately adjacent to the BSA (CNDDB 2024, CNPS 2024, USFWS 2024a, NMFS 2024). The remaining special-status wildlife species identified during the pre-survey review are not expected to occur in the BSA due to a lack of suitable habitat for the species or because the BSA is outside the species' known range (Appendix C). Table 2 identifies the 12 wildlife species and their listing status.

Botanical surveys conducted by AWE biologists in May and June of 2023 targeted the identification period (bloom period) of special-status plant species identified from the pre-survey review as having potential to occur in the vicinity of the BSA. No special-status plant species were identified in the BSA during the botanical surveys. The remaining special-status plant species identified during the pre-survey review are not expected to occur in the BSA due to a lack of suitable habitat for the species or because the BSA is outside the species' known range (Appendix C).

A complete list of special-status plants and wildlife that are known to occur or have potential to occur in the vicinity of the Project is provided in Appendix C.

Table 2. Special-status Wildlife Species with Potential to Occur in BSA

Common Name	Scientific Name	Listing Status	Potential to Occur[1]
Fish			
Steelhead - Central California coast	*Oncorhynchus mykiss pop. 8*	Threatened under Federal Endangered Species Act (FESA) and Species of Special Concern (SSC)	High
Pacific lamprey	*Entosphenus tridentatus*	SSC	Low
Herptiles			
California giant salamander	*Dicamptodon ensatus*	SSC	Moderate

Common Name	Scientific Name	Listing Status	Potential to Occur[1]
Foothill yellow-legged frog	*Rana boylii pop. 1*	SSC	Moderate
Western pond turtle	*Actinemys marmorata*	Federal Candidate, SSC	Low
Birds			
Olive-sided flycatcher	*Contopus cooperi*	SSC	Low
Yellow warbler	*Setophaga petechia*	SSC	Moderate
Mammals			
Northern California ringtail	*Bassariscus astutus raptor*	CDFW Fully Protected	Low
Pallid bat	*Antrozous pallidus*	SSC	Low
Western red bat	*Lasiurus frantzii*	SSC	Moderate
Invertebrates			
Western bumble bee	*Bombus occidentalis*	State Candidate	Low
California freshwater shrimp	*Syncaris pacifica*	Endangered under FESA and CESA	Low

[1] See Appendix C for potential to occur rationale.

Special-Status Species Critical Habitat

San Anselmo Creek and Corte Madera Creek are designated critical habitat for steelhead (central California coast distinct population segment [DPS]) (USFWS 2005). The BSA exhibits some of the essential physical and biological features of steelhead critical habitat, including suitable water flow, some suitable spawning gravels, downstream connectivity, and some natural cover needed for spawning, juvenile rearing, and adult/juvenile migration. The steep banks and channelized nature of the creek make the BSA mostly of low quality for steelhead spawning, incubation, and larval stages. The lack of diversity and complexity in the habitat, a lack of aquatic refugia, and a narrow riparian community invaded by non-native plants, makes the BSA low quality for juvenile rearing. The channelized nature of the creek and steep banks provide limited refuge from high flows and the water level may rise rapidly due to these constricted conditions (USFWS 2005), making the BSA low-to-moderate quality for juvenile and adult migration despite its connection to downstream habitat.

Migratory Bird Treaty Act

The BSA and surrounding area provide nesting habitat for numerous species of protected birds. Nesting birds, including raptors, passerines, and non-passerines, are afforded protections under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). The nesting period for birds is typically February 1 through August 31, although hummingbirds and some raptors are known to begin nesting in late December.

Impacts and Mitigation Measures

a. Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

The following discussion provides an analysis of potential impacts on sensitive species from implementation of the Project, followed by recommended mitigation measures to minimize these potential impacts and reduce them to a less than significant level.

Impacts of the proposed Project on biological resources could result from vegetation removal, grading, and RSP placement during construction. If flowing water is present in the channel at the time of construction, installation of a temporary creek diversion system to provide a dry work area may be required. Dewatering could result in temporary disturbance to aquatic biological resources. Terrestrial impacts (outside the creek channel) are considered minor because Project construction would occur primarily within developed surfaces along Bolinas Avenue and Sir Frances Drake Boulevard.

The 15 special-status wildlife listed in Table 2 have potential to occur within the BSA. Habitat for migratory birds, nesting raptors, and roosting bats is also present. Habitat impacts are depicted in Figure 6. The Project would have a ***less than significant with mitigation incorporated*** on special-status species, as discussed below.

Special-Status Fish Species

Central California Coast Steelhead

The Central California Coast DPS of steelhead is a federally threatened and state species of special concern with a high likelihood of occurring in the BSA. This species has both an anadromous form known as “steelhead” and a resident form known as “rainbow trout.” Rainbow trout are not federally listed and both forms may be found within Corte Madera Creek (Leidy 2005, 2007; A.A. Rich and Associates 2000). According to NMFS, any individuals found in waters that are accessible to steelhead are considered steelhead and afforded the protection of the FESA. Steelhead are known to occur in San Anselmo and Corte Madera creeks and both creeks were designated critical habitat for this species in 2005 (USFWS 2005). Steelhead were observed approximately 500 feet upstream from the BSA during an August 10, 2017 field survey for the nearby Winship Bridge project (Caltrans 2021).

Figure 6. Impacts to Habitats within the Project Site

If present during construction, impacts to this species from temporary disturbances associated with the Project are anticipated due to fish relocation, creek dewatering, and a temporary increase in sediment mobilization. If juvenile steelhead are relocated out of the construction area prior to dewatering, relocation efforts could result in injury or mortality to pre-smolt juvenile steelhead; additionally, if juveniles escape capture, they may be adversely affected by dewatering activities. In the past, NMFS has estimated that fish rescue and dewatering activities in similar situations would result in mortality to less than 3 percent of individuals present (NMFS 2014b). Additional direct impacts to steelhead include the temporary loss of suitable habitat during Project construction from dewatering of the Project site. Indirect impacts to steelhead and steelhead habitat may include competition with other juveniles at relocation sites; increases in downstream turbidity during re-watering and during the first high flows following construction as a result of Project work on the banks and within the channel; changes to water temperature due to obstruction or alteration of flow and/or due to removal of thermal refugia, including shade; disturbance to, or removal of, forage (such as macroinvertebrate communities in dewatered areas); and removal of cover such as aquatic and emergent vegetation and disturbances to substrates.

Implementation of the species avoidance measures identified in **Mitigation Measures BIO-1 through BIO-9** (described below) would reduce the potential impacts associated with disturbance and loss of steelhead and their habitat. Following construction, restoration of the creek's flow, bed, and banks to previous conditions would maintain long-term habitat conditions for steelhead.

Pacific Lamprey

Pacific lamprey, listed as an SSC by the CDFW, has a low likelihood to occur within the BSA. Based on their lifecycle and the low-flow conditions of San Anselmo Creek in the summer months, no spawning adults, nests, eggs, or emerging larvae would be expected in the BSA during the Project's in-stream work window (June 15 - October 15) (USFWS 2010). However, adults residing in freshwater, lamprey larva (*ammocoetes*), and out-migrating juvenile lamprey may be present. In the unlikely event that lampreys are detected in the Project site, vegetation removal and dewatering activities may temporarily affect this species.

Implementation of the species avoidance measures (including preconstruction surveys, environmental awareness training for construction workers, site monitoring, fish rescue plan measures, water diversion/dewatering measures, site replanting, and water quality BMPs) identified in **Mitigation Measures BIO-1 through BIO-9** would reduce the potential impacts associated with disturbance and loss of lamprey habitat.

Special-Status Reptile and Amphibian Species

California Giant Salamander

California giant salamander has a moderate likelihood of occurring within the BSA. California giant salamanders are listed by CDFW as SSC. No California giant salamanders were observed during the field survey for this Project. Known to occur in Marin County and in the Corte Madera Creek watershed, this species is likely to occur in upper San Anselmo Creek and its tributaries. However, the narrow, urbanized riparian corridor within the BSA is not especially suitable habitat for this species.

If present during construction, impacts to this species from temporary disturbances associated with the Project are anticipated due to vegetation removal, creek dewatering, and other construction activities within the creek bed and bank. If California giant salamanders are located under refugia in upland habitat within the BSA, they could also be affected by construction activities. However, as larval and adult salamanders are mobile, and breeding is not common in the BSA, it is anticipated that any salamanders in the impact area will move away from the Project activities.

Implementation of the species avoidance measures (including preconstruction surveys, WEAT, construction site monitoring, water diversion/dewatering measures, site replanting, water quality best management practices, and wildlife refugia protection) identified in **Mitigation Measures BIO-2 through BIO-10** would reduce the potential impacts associated with disturbance and loss of California giant salamander and their habitat.

North Coast Foothill Yellow-Legged Frog

Foothill yellow-legged frogs north coast DPS have a moderate likelihood of occurring within the BSA. Foothill yellow-legged frogs are listed by CDFW as an SSC in this region. No foothill yellow-legged frogs were observed during the field surveys. There are CNDDB records of foothill yellow-legged frogs within 5 miles of the BSA from San Anselmo Creek, Cascade Creek, Cataract Creek, Big Carson Creek, and Little Carson Creek (CDFW 2023). The BSA contains a shaded stream and cobble which provide suitable breeding and dispersal habitat. The potential suitable habitat within the Project site for foothill yellow-legged frogs is considered marginal for the following reasons:

- Presence of predatory native and domestic animals (signal crayfish, raccoons, cats, and dogs);
- Urbanization, steep banks, and channelized nature of the creek in the BSA; and,
- High percent canopy cover and associated reduced basking habitat.

If present during construction, impacts to this species from temporary disturbances associated with the Project may occur due to vegetation removal, creek dewatering, and other construction

activities within the creek bed and bank. If foothill yellow-legged frogs are located under refugia in upland habitat within the BSA, they could also be affected by construction activities. However, as frogs are mobile, and breeding is not unlikely in the BSA, it is anticipated that any frogs in the impact area will move away from the Project activities.

Implementation of the species avoidance measures (including preconstruction surveys, environmental awareness training, site monitoring, water diversion/dewatering measures, site replanting, water quality best management practices, and wildlife refugia protection) identified in **Mitigation Measures BIO-2 through BIO-10** would reduce the potential impacts associated with disturbance and loss of Foothill yellow-legged frogs and their habitat.

Western Pond Turtle

The western pond turtle is a federal candidate for FESA listing and a CDFW SSC and has a low likelihood of occurring in the BSA. Western pond turtles are found in slow moving water of freshwater aquatic habitats including rivers, streams, lakes, ponds, marshes, and irrigation ditches, usually with aquatic vegetation, from California to Washington. No western pond turtles were detected during the field survey. There are no records of western pond turtles in San Anselmo Creek (CDFW 2024; FCMCW 1996). There are few potential basking sites within the BSA, which is heavily shaded. No suitable nesting habitat was identified within the BSA or adjacent uplands; however, the BSA could serve as a dispersal habitat for western pond turtles. The nearest CNDDB records are from Phoenix Lake, Lagunitas Lake, Bon Tempe Creek, and Alpine Lake on Mount Tamalpais (CDFW 2024).

If present during construction, impacts to this species from temporary disturbances associated with the Project are anticipated due to vegetation removal, creek dewatering, and other construction activities within the creek bed and bank. If turtles are located under refugia in upland habitat within the BSA, they could also be affected by construction activities. However, as turtles are mobile, and breeding is not likely in the BSA, it is anticipated that any turtles in the impact area will move away from the Project activities.

Implementation of the species avoidance measures (including preconstruction surveys, environmental awareness training, site monitoring, water diversion/dewatering measures, site replanting, water quality best management practices, and wildlife refugia protection) identified in **Mitigation Measures BIO-2 through BIO-10** would reduce the potential impacts associated with disturbance and loss of western pond turtles and associated habitat.

Special-Status and Migratory Bird Species

Nesting birds, including raptors, passerines, and non-passerines, are afforded protections under the MBTA and CFGC. The nesting period for birds is typically February 1 through August 31, although hummingbirds and some raptors are known to begin nesting in late December.

The BSA and surrounding area provides suitable nesting habitat for numerous species of birds protected under the MBTA and CFGC. Several common species observed during the field survey that also have potential to nest within the BSA include red shouldered hawk, song sparrow, Anna's hummingbird, American crow, and dark-eyed junco. Olive-sided flycatcher and yellow warbler are CDFW SSC with potential to nest within the BSA.

The proposed Project has the potential for direct and indirect impacts to nesting birds through nest abandonment, nest failure, nest destruction, and premature fledging. If present during construction, impacts to these species from temporary disturbances associated with the Project are anticipated due to vegetation/tree removal.

Implementation of the species avoidance measures (including preconstruction surveys, environmental awareness training, site monitoring, and nesting bird protection) identified in **Mitigation Measures BIO-2 through BIO-4, BIO-7 through BIO-9, and BIO-11**, would reduce impacts associated with disturbance and loss of protected birds and their habitat.

Special Status Mammal Species

Northern California Ringtail

The ringtail is listed by the CDFW as a Fully Protected species. Ringtails occur in many habitats, including coniferous forests, oak woodlands, pinyon pine-juniper woodlands, chaparral, and deserts. They are often found in rocky areas, near cliffs, canyons, or talus slopes. They are also often associated with riparian habitats. They frequent disturbed and natural spaces as well as areas near human habitation. No ringtails were detected during the field survey. There are no suitable den sites in the BSA; however, ringtails could utilize the area while foraging and dispersal. There are no CNNDB records of this species in Marin County (CDFW 2024).

No impacts to ringtails would occur as a result of the Project because ringtails would only be in the Project site while foraging or dispersing at night and construction is only scheduled to occur during daylight hours.

Tree Roosting Bats

The CFGC (Section 4150) prohibits take of bats. Bats utilize a variety of habitats but are often found near water and may roost in large colonies or singly, both during the day or at night, in trees (in foliage, under bark, or in hollows and cavities), in rocks or crevices in natural and man-made environments, in structures (including bridges), and caves or cave-like spaces such as mines. Two bat species that are listed by CDFW as SSC have a low or moderate likelihood to occur in the BSA: western red bat and pallid bat. Western red bats, which roost in tree foliage, and pallid bats, which can roost in bridges and tree cavities, have some likelihood to roost in the BSA. In addition, there are other bat species that are not special-status species which may roost in the existing bridge or in trees within the BSA.

No bats or bat sign (sound, guano, staining) were observed during the field surveys. Trees within the BSA provide suitable roosting habitat for bats, primarily in crevices or possibly hollows; the favored trees for foliage-roosting bats are large cottonwoods and sycamores which do not occur in the BSA (H.T. Harvey and Associates 2004).

Tree removal and vegetation trimming may result in a temporary and permanent loss of roosting habitat. If bats are using the BSA (and especially the trees in and immediately surrounding the work area), temporary impacts could result from Project-related disturbances including noise, vibration, and other activities or equipment used near roost sites. Implementation of the species avoidance measures (including preconstruction surveys, WEAT, and construction site monitoring) identified in **Mitigation Measures BIO-2 through BIO-4, BIO-7 through BIO-9**, and **BIO-12 and BIO-13** would reduce the potential impactS associated with disturbance and loss of protected bats and their habitat.

Special Status Invertebrate Species

Western Bumble Bee

The Western bumble bee is a candidate for listing with the state. In California, this species is typically found in open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadow. There is urban park-like habitat in the BSA; this habitat has low potential to support Western bumble bee as it could sustain foraging, but no nesting. No bumble bees (of any species) were observed during the field survey. There are five CNDDB occurrences within a 5-mile radius of the BSA, but they were reported prior to 1962 (CDFW 2024). The Project would not affect this species.

California Freshwater Shrimp

The California freshwater shrimp is a federally and state endangered species. Shrimp occur in pool areas of low elevation in low-gradient permanent streams where riparian cover is moderate to heavy, among live tree roots of undercut banks, and under overhanging woody debris or

vegetation. They are endemic to Marin County and extant populations occur in Lagunitas Creek. There is low-elevation, low-gradient permanent stream habitat in the BSA; however, the section of stream in the Project site lacks undercut banks and woody debris favored by this species, there are no CNDDB occurrences within a 5-mile radius of the BSA (CDFW 2024), and no shrimp were observed during the field survey. There is low potential for shrimp to occur in the BSA. The Project would not affect this species.

Mitigation Measures: The following mitigation measures would be implemented to avoid and minimize impacts on special-status species.

Mitigation Measure BIO- 1: Conduct Preconstruction Special-Status Fish Surveys

One week before the start of construction, a qualified fisheries biologist shall assess the Project site for the presence of special-status fish species based upon current water conditions. If special-status fish species are determined to have the potential for presence in the BSA or are observed within the BSA, avoidance and minimization measures BIO-5 and BIO-7 (described below) must be implemented. If the creek bed is entirely dry, no further measures shall be necessary. Results of the preconstruction survey shall be submitted to NMFS and CDFW.

Mitigation Measure BIO-2: Limit Project Work Window, Duration, Disturbance, and Footprint

To minimize impacts to the environment, the Project footprint shall be limited to the minimum amount needed to complete the Project. The duration and amount of construction-related disturbance in the creek channel shall also be limited to the extent practicable. Work in the San Anselmo Creek channel shall be restricted to the period from June 15 to October 15, when stream flow will be lowest and outside of the adult migration, spawning, incubation, larval phase, and smolt outmigration periods of steelhead. Construction shall be restricted to daylight hours to avoid the need for artificial lighting at night, which can attract and disturb fish and wildlife.

Environmentally sensitive areas will be avoided during construction. Downed trees, stumps, boulders, and other refuge within aquatic habitat adjacent to the construction site shall remain undisturbed. Thermal refugia (pools) and suitable spawning sites adjacent to the construction site shall also remain undisturbed. Tree removal shall be limited to the minimum necessary to complete the project construction. Silt fencing or flagging will be used to demarcate environmentally sensitive avoidance areas, including high-visibility silt fencing or flagging used to protect trees.

Mitigation Measure BIO-3: Conduct Worker Environmental Awareness Training

All construction personnel shall attend a mandatory environmental education program delivered by a biologist prior to working on the proposed Project. The training shall include: a description of protected biological resources including identification of special-status species and habitats that may occur within the construction area; an explanation of the status of these species and habitats and their protection under the Endangered Species Act and other laws; the measures to be implemented to conserve listed species and their habitats as they relate to the work site;

descriptions of the boundaries within which construction may occur; and an explanation of the mitigation measures and BMPs to be followed during project implementation. If new construction personnel are added to the proposed project, they must receive mandatory training before starting work.

Mitigation Measure BIO-4: Implement Water Quality Best Management Practices (BMPs)
Before any ground-disturbing activities, the Town or authorized construction contractor shall prepare a Construction Erosion and Sediment Control Plan (ESCP) or equivalent, that includes erosion and sediment control measures and construction waste containment measures to protect waters of the state and U.S. during and after Project construction. The ESCP or equivalent shall include measures to minimize offsite stormwater runoff that might otherwise affect stream habitat and wildlife. The ESCP or equivalent plan would include, at a minimum, the following BMPs, that would be adhered to during Project activities:

- No discharge of pollutants from vehicles and equipment cleaning are allowed into storm drains or watercourses.
- Construction equipment will be cleaned and inspected prior to use. Vehicle and equipment fueling and maintenance operations must be at least 50 feet away from watercourses. If refueling or servicing of equipment within 50 feet of a watercourse is necessary, secondary containment and absorbent pads will be used.
- Stationary equipment located within or adjacent to San Anselmo Creek will be positioned over secondary containment.
- Concrete wastes collected in washouts and water from curing operations will be collected and disposed of, and not allowed into watercourses or storm drains. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and 150 feet, at a minimum, from any aquatic habitat, culvert, or drainage feature. If storage of grindings and asphaltic-concrete waste within 150 feet of San Anselmo Creek is necessary, secondary containment and absorbent pads will be used; in addition, a protective barrier will be installed between the work area and the creek to prevent any spills and run-off from entering the creek.
- Sediment control will be implemented. On-site stockpiles will be isolated with silt fence, filter fabric, and/or straw bales/fiber rolls. Erosion, sediment, and material stockpile BMPs will be employed between work areas and the adjacent waterway. No fill or runoff will be allowed to enter waterways at any time.
- Hazardous materials will not be stored within 200 feet of San Anselmo Creek.

Mitigation Measure BIO-5: Develop and Implement a Fish Rescue Plan
A fish rescue plan shall be developed and implemented by the aquatic biologist in coordination with NMFS and/or CDFW. Individual organisms shall be relocated the shortest distance possible to an adjacent downstream area with sufficient aquatic habitat. Within occupied habitat, capture,

handling, exclusion, and relocation activities shall be completed no earlier than 48 hours before construction begins.

Before and during dewatering of the construction site, juvenile steelhead and other fishes shall be captured by dip net or seine and then relocated.

During fish relocation, all organisms shall be kept in water to the maximum extent possible and captured steelhead shall be kept in cool, shaded, well-aerated water and protected from disturbance and overcrowding until they are released. To avoid predation, two containers shall be used: one for young-of-the-year fish and one for second- or third-year fish. Captured fish shall be relocated out of the Project site into suitable habitat, preferably downstream, to avoid direct mortality and minimize the possible stranding of fish in isolated pools. The relocation site should be as close to the dewatered area as possible while meeting the survival needs (adequate water quality/quantity, cover, and forage) of both the relocated individuals and the fish already inhabiting the relocation site.

Mitigation Measure BIO-6: Prepare and Implement Water Diversion and Dewatering Plan

If flowing water is present in the channel, the flow shall be diverted around the work area by creating a temporary diversion to isolate a dry active construction work area. The diversion should not be installed until after fish rescue efforts are complete. The diversion will prevent fish from re-entering the work area until completion of all construction in the creek.

The Contractor will prepare and implement a water diversion and dewatering plan. The plan will be approved by the Town. Dewatering may employ cofferdams and pipes or other water diversion techniques, as approved by the Town and regulatory agencies. All activities within the channel shall commence only after appropriate BMPs for dewatering and protecting water quality are in place.

The temporary diversion shall be installed as close as possible to the construction area to minimize impacts to the flow of the stream and shall be constructed to ensure a tight seal with the creek bed to allow for a dry work area and minimize downstream turbidity. Fill material for cofferdams, if used, shall be fully confined with the use of plastic sheeting, sheetpiles, sandbags, or with other nonporous containment methods, such that sediment does not come in contact with stream flow or in direct contact with the natural streambed. All loose fill material for cofferdams shall be completely removed from the channel by October 15. Alternatively, clean gravel or clean crushed stone may be used without plastic sheeting, sandbags, etc.

Water shall be directed downstream at an appropriate rate to maintain downstream flows and the outlet of all diversion pipes shall be positioned such that the discharge of water does not result in bank erosion or channel scour and maintains pre-project hydraulic conditions. The length of the pipe shall be the minimum necessary to safely convey the flow through the construction site and shall be placed on the streambed at natural grade. Flows shall be returned to the stream channel

immediately downstream of the work area. Immediately upon completion of in-channel work, temporary fills, diversion cofferdams, and other in-channel structures shall be removed in a manner that minimizes disturbance to downstream flows and water quality. Creek diversion shall be limited to the minimum amount of time necessary to support construction activities.

Mitigation Measure BIO-7: Biological Monitor and On-Site Monitoring

The Town shall approve a qualified biologist(s) to provide services for the proposed Project. The biologist(s) shall be on-site during in-water activities, as well as for all designated activities required by the agencies during consultation. The biologist(s) shall keep copies of applicable permits in their possession when on site. Through the Town or their designee, the biologist(s) shall have the authority to stop proposed project activities to avoid take of listed species or if he or she determines that permit requirements are not being fully implemented. The biologist shall monitor construction activities to observe that measures to avoid and minimize impacts to water quality, vegetation communities, aquatic resources, special habitats, and special-status species and their habitats are implemented and shall document and report any issues. The biologist shall be responsible for identifying, monitoring, and maintaining non-disturbance buffers for nesting birds and/or roosting bats.

During in-water activities, the biologist shall monitor all activities (e.g., installation and removal of cofferdams and pipes) for the purpose of avoiding and minimizing undue impacts to steelhead and other special-status aquatic species (fish and herpetofauna) and their habitat, and to monitor that the diversion and dewatering devices are functioning properly. An approved aquatic biologist shall also be present for the purpose of removing and relocating any listed species that were not detected during the fish rescue or could not be removed and relocated prior to construction.

Mitigation Measure BIO-8: Implement Creek Bed and Bank Protection Measures

The creek bed and banks shall be protected to minimize impacts from temporary construction access and project construction. Native substrates removed during excavations and earthwork shall be stockpiled and returned to the creek bed and banks following project construction as part of the site restoration effort. The creek bed and banks shall be restored to natural and stable conditions following construction. Additional measures include the following:

- If riparian vegetation must be cut back, it shall be to the minimum height necessary (no lower than ground level) to promote rapid re-growth.
- Downed trees, stumps, boulders, and other basking sites and refuges within aquatic habitat surrounding the project site shall remain undisturbed and any minor, temporary disturbance restored to natural and stable conditions following construction.
- All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a day from the work area.

- To prevent harassment, injury, or mortality of sensitive species, no pets shall be permitted on the project site.

Mitigation Measure BIO-9: Return Temporarily Disturbed Areas to Pre-Project Conditions

Modified or disturbed portions of the stream channel, banks, and riparian areas shall be restored to natural and stable contours (elevations, profile, and gradient). A native grass seed mix shall be applied to areas disturbed by construction, creek access, and contouring, as well as to areas where native soils are used to fill voids in the RSP.

Mitigation Measure BIO-10 Conduct Surveys for Special-Status Amphibians and Reptiles

A focused pre-construction survey of the BSA shall be conducted a maximum of 48 hours prior to the start of construction activities for special-status species within the Project site. The survey shall include a thorough search of potential refugia for frogs and salamanders within the Project site. If California giant salamanders or western pond turtles are observed within the Project site, a biologist shall relocate the individuals the shortest distance possible to habitat unaffected by construction activities and increased Project monitoring may be warranted. If foothill yellow-legged frogs are found, they shall be protected from disturbance, allowed to move out of the Project site on their own, or relocated as per consultation with regulatory agencies.

Mitigation Measure BIO-11: Nesting Bird Surveys and Protection

A nesting bird survey shall be performed by a qualified biologist within five days prior to the start of construction activities. If there is a lapse in Project-related work of more than seven days, additional surveys shall be conducted unless the work is occurring outside the nesting season (February 15 to August 31). Surveys for nesting birds within and around the Project site shall be conducted by the monitoring biologist regularly during construction. Active nests shall be flagged for avoidance. If active bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW and may vary depending on species and sensitivity to disturbance.

Avian nesting season shall be considered February 15 – August 31 for this Project. This timeframe covers the nesting season of most of the birds expected in the Project vicinity, raptors and non-raptors. Tree removal and vegetation trimming shall occur outside of the nesting season to the extent possible.

If work must occur within 250 feet of active raptor or special-status species nests or within 50 feet of active passerine nests, a non-disturbance buffer shall be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. Active nests found shall be demarcated with flagging and a non-disturbance buffer zone shall be established. The non-disturbance buffer shall be visibly marked to prevent encroachment of construction activities. A qualified biologist

may reduce the buffer size based on construction activities and observations of nesting behavior. Active nests shall be monitored by a qualified biologist to determine when the nest is no longer active, and non-disturbance buffers shall remain in place until the nest is no longer active (i.e., either when the young have fledged or the nest has failed). If nesting bird protections will impact construction windows established to protect other listed species (i.e., fish), then the appropriate agencies shall be consulted to establish alternate avoidance measures.

Mitigation Measure BIO-12: Conduct a Preconstruction Roosting Bat Survey Prior to Tree Trimming or Removal

A qualified biologist shall conduct a preconstruction survey of all trees proposed for removal or trimming within the Project for the presence of bat roosts. Surveys will entail direct inspection of trees, including around the base within piles of leaf litter, or nocturnal surveys (if not conducted during the hibernation period for bats). The survey shall occur no more than 2 weeks prior to the removal or trimming of trees within the Project site. If roosting habitat is present and occupied, then a qualified biologist shall determine the type of roost. If roosting bats are found within the Project outside of the inactive season (November 1 to February 15) and the maternity season (April 1 to September 30), the bats may be excluded from the roost using methods developed by a qualified and experienced biologist in developing and implementing bat mitigation and exclusion plans in coordination with CDFW. If bats are found to be roosting within the Project site during the inactive season or the maternity season, the roost must be avoided. Otherwise, removal of bat roost trees would be conducted in two phases: the tree will be limbed on day 1 and the tree will be removed on day 2.

Mitigation Measure BIO-13: Roosting Bat Protection

If roosts are found within trees subject to removal, measures shall be taken to avoid, minimize, and/or mitigate impacts to the roost(s) following existing protocols for impacts to bat roosts, such as those outlined in California Bat Mitigation Techniques, Solutions, and Effectiveness (H.T. Harvey & Associates 2004). Active roosts within 100 feet of the Project site that can be avoided shall be flagged and a non-disturbance buffer zone shall be established. The non-disturbance buffer zone shall be visibly marked to prevent encroachment of construction activities. A biologist may reduce the buffer size based on construction activities and observations of roosting behavior. No work shall occur in the buffer until it is determined that the bats have left on their own, or until the end of the maternity season. Active roosts shall be monitored by the biologist. If roosting bat protections will impact construction windows established to protect other listed species (i.e., fish), then the appropriate agencies shall be consulted to establish alternate avoidance measures.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

Sensitive natural communities occurring in the BSA include California bay woodland and forest alliance, a riparian habitat, and San Anselmo Creek, a perennial stream. A survey of San Anselmo Creek was performed at the Project location to delineate the OHWM and lateral extent of San Anselmo Creek in accordance with USACE guidelines (USACE 2005). In the BSA, San Anselmo Creek has a negligible gradient and a gravel/cobble/sand bottom. It is classified in the National Wetland Inventory as a semi-permanently flooded upper perennial creek with an unconsolidated bottom (USFWS 2023b). San Anselmo Creek was flowing at the Project location during the December 2022, May and June 2023 site visits.

Table 3 summarizes temporary and permanent impacts to sensitive natural communities and Figure 6 identifies impacts to all habitat types within the Project site. Construction of the proposed Project would result in temporary impacts to 0.013 acre of California bay woodland and forest alliance habitat and 0.0025 acre of perennial stream. These temporary impacts would occur during Project construction activities including site access, placement of RSP, creek contouring, and bank stabilization. The Project would result in 0.006 acre of permanent impacts to California bay woodland and forest and 0.002 acre of perennial stream from installation of the new RSP below the ordinary high water mark (OHWM). The new RSP would add approximately 15 cubic yards of fill to San Anselmo Creek. Following construction, restoration of the creek's flow, bed, and banks to previous conditions would restore the function and value of these sensitive habitats. The impact to these habitats is not substantial and is ***less than significant***.

Table 3. Impacts to Sensitive Natural Communities within The Project Site

Habitat Type	Permanent Impacts (acres)	Temporary Impacts (acres)
California bay woodland and forest (riparian)	0.006	0.013
Perennial stream (San Anselmo Creek)	0.002	0.025
Total	**0.008**	**0.038**

Mitigation Measures: None required.

c. Would the project have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?

There are no federally protected wetland features within the BSA (AWE 2023); therefore, the Project would have ***no impact*** on wetlands**.**

Mitigation Measures: None required.

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 corridors, or impede the use of native wildlife nursery sites?

During Project construction, temporary disturbance from construction noise and human presence may deter wildlife from moving or dispersing through the Project site. Wildlife could continue to migrate through existing habitat adjacent to the Project site. Migration of aquatic species, notably steelhead, may be affected by construction activities. Mitigation measures are identified to minimize effects of construction, including dewatering, on aquatic species movement. See discussion and mitigation measures in question a above. After completion of the Project, there would be no substantial change to conditions for dispersing or migrating species. Therefore, impacts would be ***less than significant***.

Mitigation Measures: None required.

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

The proposed Project is likely to require the removal of three trees within the urban Sir Frances Drake Boulevard corridor and one tree within the California bay woodland and forest alliance habitat, which is part of the San Anselmo Creek riparian corridor in the Project site. The three trees within the urban habitat include one Coast live oak (dbh 8.1 inches), one Valley oak (dbh 5.6 inches), and one Bay laurel (dbh 15.9 inches). The tree within the California bay woodland and forest alliance habitat is a multi-stem Buckeye (dbh 27, 7.6, and 9.5 inches). Based on its location and size, the Coast live oak qualifies as a "protected tree," under the Town's tree ordinance. The Bay laurel and the Buckeye qualify as both "protected" and "significant" under the Town's tree ordinance.

> *12.24.020 Definitions:*
>
> *"Protected tree," means any tree located within twenty-five feet (25') of the front or side yard property line or within forty feet (40') of the rear yard property line of any parcel, with such tree having a diameter greater than eight inches (8"); and any tree planted as a replacement tree for a tree removed pursuant to this chapter or planted within a required yard setback area pursuant to a landscape plan approved by the town council.*
>
> *"Significant tree," means any tree having a single trunk diameter greater than twelve inches (12"), or any tree designated to be preserved on plans approved by the town council, or as a condition of approval of a project approved by the town council.*

Additionally, an estimated eight trees may require trimming to allow for equipment access. Figure 7 provides a visual representation of potential tree impacts.

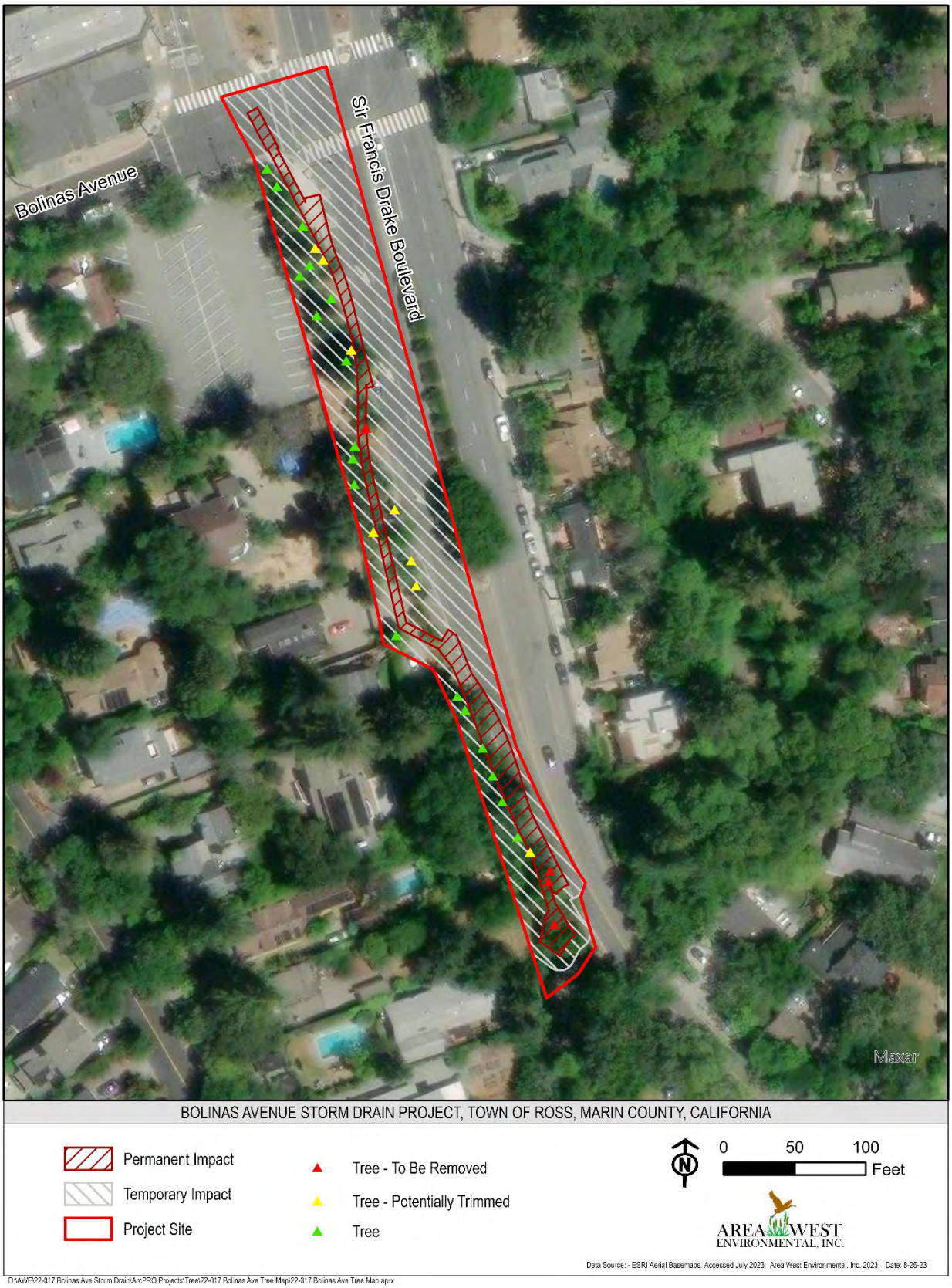


Figure 7. Potential Project Impacts on Trees

As part of the proposed Project, the Town will comply with Town's Municipal Code Chapter 12.24.080 ("Tree Protection Ordinance") which requires that a tree permit be obtained to alter or remove any trees greater than 1 inch dbh in the public right-of-way, greater than 6 inches dbh on unimproved parcels, and/or any significant or protected trees, as defined therein, on improved parcels. A tree replacement plan is also required as part of the Tree Protection Ordinance. The implementation of BMPs to protect native trees and vegetation (**Mitigation Measures BIO-2, BIO-8, and BIO-9**) and the erosion prevention measures/water quality BMPs provided under **Mitigation Measure BIO-4**, would serve to further minimize impacts to native trees and vegetation. Consequently, this impact is ***less than significant.***

Mitigation Measures: None required.

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 adopted Habitat Conservation Plans, Natural Community Conservations Plans or other approved local, regional, or state habitat conservation plans that overlap with the proposed Project site. Therefore, the proposed Project would have ***no impact.***

Mitigation Measures: None required.

3.5 Cultural Resources

Would the Project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	Less than Significant Impact with Mitigation Incorporated
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Less than Significant Impact with Mitigation Incorporated
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less than Significant Impact with Mitigation Incorporated

Environmental Setting

A *Cultural Resources Report for the Bolinas Avenue Storm Drain Improvements Project, Town of Ross, Marin County, California* (AWE 2023b) and an Area of Potential Effect (APE) Map were prepared for the Town, that included archival research and outreach to the Native American Heritage Commission (NAHC) and local Native American representatives and/or tribal contacts, as detailed below. A pedestrian survey of the APE was performed by a qualified archaeologist on May 12, and June 27, 2023, with the survey results included in the Cultural Resources Report. Given the close proximity of the Project site to known precontact archaeological resources and Native American consultation, it was determined, in coordination with the Town and the Federated Indians of Graton Rancheria (Graton Rancheria), that the project area is archaeologically and culturally sensitive and that an exploratory testing program should be conducted in advance of construction work to identify any subsurface cultural resources. A subsurface testing program was undertaken in July 2024.

The APE (or "Project site", as referenced in other sections of this Initial Study) incorporates all areas subject to Project-related impacts, including staging areas and excavation limits, as shown in Figure 3. The APE encompasses approximately 0.89 acre, with the construction footprint including the existing roadway, sidewalk, and some natural ground driveway areas along Sir Francis Drake Boulevard. The study area for the field survey also includes the existing bridge and a portion of the San Anselmo Creek bed.

Archival Search and Literature Review

As part of the background research for this project, a records search (File No. 22-1903) was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University, Rohnert Park. Results were provided on June 28, 2023. Records consulted at the NWIC included the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), topographic maps showing the locations of sites or surveys, and historic topographic maps. The record search was requested for the proposed APE and within a quarter-mile radius of that location.

The NWIC records search indicated that there was one resource within the APE and twenty-one resources within the quarter-mile search radius. The resource within the APE is the Sir Francis Drake Boulevard Bridge (no. 27C-0050) over San Anselmo Creek. The concrete arch bridge was built in 1909, and per a 2004 report by JRP Historical Consultants (McMorris 2004), is considered eligible for the NRHP. Of the twenty-one resources outside the APE and within the quarter-mile search radius, 20 are historic buildings, none of which are located immediately adjacent to the APE and they will not be affected by the Project. One resource is a precontact shell mound and habitation area upstream.

A Sacred Lands File search conducted by the NAHC reported that the proposed APE is negative for Sacred Lands.

Field Survey

A preliminary cultural visit was done on May 12, 2023 by Mary Bailey, M.A. An intensive pedestrian survey was conducted on June 27, 2023 by Jennifer Pennell M.A. and Mary Bailey M.A., both Secretary of the Interior qualified archaeologists. The study area encompassed the APE plus the San Anselmo Creek bed (extending approximately 50 linear feet north and 75 linear feet south of the bridge deck). Overall visibility was poor (0-10 percent), as the majority of the APE is obscured by private property, structures, pavement/sidewalks, and dense vegetation. Soils could be observed around the banks of the creek and public lands adjacent to roads and sidewalks. Exposed soils were specifically examined for evidence of cultural resources.

During the pedestrian survey, a shell of undetermined age, which may be linked to the upstream precontact shell mound site, was discovered outside of the project's APE. This find, while not a significant resource, may attest to the cultural sensitivity of the area. A portion of the former Northern Pacific Coast railroad grade is visible immediately west of Sir Francis Drake Boulevard. The Marin line of the Northern Pacific Coast Railroad was built in 1874 and travelled from Sausalito through Ross Valley to San Anselmo, where it branched west to Tomales and east to San Rafael. By the 1950's, the railroad was replaced by Sir Francis Drake Boulevard (McAnally 1927). No new significant cultural materials, features, or sites were identified within the APE during the survey.

Subsurface Testing

Subsurface testing was completed in July 2024 in coordination with Graton Rancheria. The testing program consisted of the hand excavation of auger test pits using an eight-centimeter soil auger bit and completed in 20-centimeter layers. Sediments recovered from each level were characterized, photographed, and screened through a 1/4-inch hardware mesh before being backfilled. A Tribal monitor was present for all testing activities. During testing, no precontact archaeological deposits were encountered. A subsurface ballast, evidence of the former Northern Pacific Coast Railroad grade, was identified during the survey. Evaluation of the subsurface ballast

determined that it did not qualify for NRHP or CRHR listing and would not be considered a historical or archaeological resource pursuant to CEQA.

Impacts and Mitigation Measures

a. Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Historic-era activities and features within the APE are mostly related to domestic and infrastructure developments. These include the existing Sir Francis Drake Boulevard Bridge and residences surrounding the APE. The residences are not listed in the NRHP or the CRHR, but the Sir Francis Drake Boulevard Bridge (no. 27C-0050) is considered eligible for the NRHP. The bridge would be adjacent to proposed construction work, but no part of the bridge (railing, deck, or abutments, etc.) would be physically affected by the excavation and outfall installation.

Construction of the proposed Project would require ground excavation. During construction, the possibility remains that a previously undiscovered historic resource meeting NRHR or CRHR significance criteria may be discovered during project-related ground-disturbing activities. To reduce this impact, WEAT for cultural resources would be required for all personnel conducting subsurface disturbance activities (Mitigation Measure CUL-1), and implementation of standard inadvertent discovery procedures would be required (identified as Mitigation Measure CUL-2). The incorporation of Mitigation Measures CUL-1 and CUL-2 would reduce impacts to previously undiscovered subsurface resources (including tribal resources) to a less-than-significant level. Consequently, this impact is ***less than significant with mitigation incorporated***.

Mitigation Measures: Mitigation Measures CUL-1 and CUL-2.

Mitigation Measure CUL-1: Worker Environmental Awareness and Cultural Respect Training

Prior to excavation or other subsurface disturbance activities, individuals conducting the work will be required to participate in Worker Environmental Awareness and Cultural Respect Training. Training could be provided in conjunction with WEAT for biological resources. The WEAT will include relevant information regarding sensitive cultural resources and Tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or Tribal cultural resources are encountered. Workers will be advised to watch for cultural resource materials, including evidence of precontact cultural resources (freshwater shells, beads, bone tool remnants or an assortment of bones, soil changes including subsurface ash lens or soil darker "midden" in color than surrounding soil, lithic materials such as flakes, tools or grinding rocks, etc.), or historic-era cultural resources (railroad-related features such as refuse deposits, structural remains, rails or ties); adobe foundations or walls; structures and remains with square nails; refuse

deposits or bottle dumps, often associated with wells or old privies). The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values.

Mitigation Measure CUL-2: Inadvertent Discovery of Cultural Resources During Ground-Disturbing Activities

If workers observe any evidence of precontact or historic-era cultural resources during subsurface construction activities (e.g., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation forms. The archaeologist shall determine whether the item requires further study. If the qualified archaeologist determines the archaeological material to be Native American in nature, the consulting Tribe(s) shall be notified and shall determine if the find is a Tribal Cultural Resource (pursuant to PRC section 21074). If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under CEQA, the archaeologist and Tribal representative (if applicable) shall recommend feasible mitigation measures, which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. Upon the Town's approval of the recommended mitigation measures, the measures shall be implemented. The Town shall fund the costs of the qualified archaeologist and required analysis and shall include this mitigation measure in the construction contract to inform contractors of this requirement.

b. Would the Project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?

The State CEQA Guidelines require consideration of archaeological resources (CCR Section 15064.5). Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource is included in a local register of historical resources or the resource meets the criteria for listing on the CRHR (Pub. Res. Code, §5024.1, Title 14 CCR, Section 14 CCR, Section 4852) including the following:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. Is associated with the lives of persons important in our past;

c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed, or determined to be eligible for listing, in the CRHR, and is not included in a local register of historical resources, does not preclude a lead agency from determining that the resource may be an historical resource.

Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (CCR tit. 14 § 15064.5). Implementation of the proposed Project would result in construction activities (including excavations) that could inadvertently damage or destroy previously undiscovered archaeological resources.

Implementation of **Mitigation Measures CUL-1** and **CUL-2** (see above) would reduce this impact to any previously undiscovered subsurface archaeological resources to a less-than-significant level. Consequently, this impact is ***less than significant with mitigation incorporated***.

Mitigation Measures: Mitigation Measures CUL-1 and CUL-2 (described in subsection "a" above).

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

No human remains have been previously encountered in the vicinity of the proposed Project. However, should human remains, including those interred outside of formal cemeteries and including associated items and materials, be discovered during subsurface activities, the human remains and associated items and materials could be inadvertently damaged. Although unlikely, if human remains are discovered during proposed Project construction, California Health and Safety Code regulations (as described in **Mitigation Measure CUL-3**) shall be followed, and potential impacts resulting from disturbance of human remains during Project construction would be reduced to a less than significant level. Therefore, this impact is considered ***less than significant with mitigation incorporated.***

Mitigation Measures: Mitigation Measure CUL-3.

Mitigation Measure CUL-3: Procedures for Inadvertent Discovery of Human Remains

In accordance with the California Health and Safety Code, Section 7050.5, and the Public Resources Code 5097.98, regarding the discovery of human remains, if human remains are discovered during construction, all work must immediately cease within 100 feet of the find, and the Marin County Coroner must be contacted. If the Coroner determines that the remains are those of a Native American, the Coroner shall contact the NAHC and subsequent procedures shall be followed, according to State Public Resources Code Sections 5097.9 to 5097.99, regarding notification of the Native American Most Likely Descendant. Following the coroner's and NAHC's findings, the Town and the NAHC-designated Most Likely Descendant shall determine the ultimate

treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.

3.6 Energy

Would the Project:

Question	CEQA Determination
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Less than Significant Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

Environmental Setting

California's major sources of energy are petroleum products (i.e., gasoline, diesel, and oil), electricity, and natural gas. The Town of Ross Climate Action Plan (Town of Ross 2010a) establishes strategies for increasing energy efficiency in buildings, encouraging less dependence on automobiles, and using clean renewable energy sources. Energy use for the project would be limited to construction-related uses.

Impacts and Mitigation Measures

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

The proposed Project is a storm drain improvement project; once installed, the new storm drain and outlet would be gravity controlled. No changes to operational energy consumption would occur.

During construction, the proposed Project would require the use of construction vehicles to deliver construction personnel and materials to the site, complete excavation, remove trees, remove and replace concrete, asphalt, guardrails and install the rock riprap apron and outfall. Energy would be consumed during the construction phase in the form of diesel or gasoline fuel consumption for construction equipment and vehicles.

Construction will be temporary (approximately 5 months of active construction time) and would not result in significant environmental impact due to inefficient or unnecessary consumption of energy resources. The application of **Mitigation Measure AIR-1** BAAQMD Basic Construction Measures (see Section 3.5 "Air Quality") includes measures (such as reducing vehicle and equipment engine idling times) that would reduce energy consumption and combustion of petroleum products by construction equipment. Therefore, the Project would not involve the wasteful, inefficient, or unnecessary consumption of energy resources during construction. During Project operation, the proposed Project would function as a municipal storm drain, which requires no energy input. This impact would be considered ***less than significant***.

Mitigation Measures: None required.

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

The proposed Project is a construction project and does not include operation of energy-consuming features. Therefore, the proposed Project would have ***no impact***.

Mitigation Measures: None required.

3.7 Geology and Soils

Would the Project:

Question	CEQA Determination
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.	No impact
(ii) Strong seismic ground shaking?	No impact
(iii) Seismic-related ground failure, including liquefaction?	No impact
(iv) Landslides?	No impact
b) Result in substantial soil erosion or the loss of topsoil?	Less than Significant Impact
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?	No impact
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?	No impact
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?	No impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Less than Significant Impact

Environmental Setting

The proposed Project site is within the geologically complex region of California referred to as the Coast Ranges Geomorphic Province (California Geological Survey [CGS], 2002). The Coast Ranges province lies between the Pacific Ocean and the Great Valley Geomorphic Province (Sacramento and San Joaquin Valleys) and stretches from the Oregon border to the Santa Ynez Mountains near Santa Barbara. This province is marked by northwest-trending elongated ranges and narrow valleys that roughly parallel the coast and the San Andreas Fault Zone. Much of the Coast Ranges province is composed of marine sedimentary deposits, metamorphic rocks, and volcanic rocks. The tectonics of the San Andreas Fault Zone and other major faults in the western part of California have played a major role in the geologic history of the area.

The Project site is in a seismically active region of California and there is the potential for damage resulting from movement along any one of a number of the active faults. Among the various active faults in the region, the San Andreas and the Hayward-Rogers Creek Faults are the most likely to

cause a large seismic event in the vicinity of the proposed Project. (USGS, 2008). The San Andreas Fault and the Hayward-Rodgers Creek Fault Zones are active, north-south trending faults in the California bay region. The San Andreas Fault is located approximately 7 miles to the west of the Project site; the Hayward-Rodgers Creek Fault Zone is located approximately 10 miles east of the Project site (California Department of Conservation 2023).

The soils within the Project site are comprised of Xerorthents-Urban land complex, with 0 to 9 percent slopes. Xerorthents-Urban land complex soils are derived from Earth spread deposits and are found in tidal flats and valley floors (National Resource Conservation Service [NRCS], 2023). In this developed area, it is assumed that xerorthents in this complex have been altered by cutting or filling for urban development and, therefore, have variable soil characteristics.

The Marin Map, produced by the Marin General Services Authority (MGSA), a joint powers agency composed of local governments, special districts, and public agencies, identifies the Project site as having a no risk of tsunami, low potential for liquefaction, no expansive soils, no history of major landslides (surficial deposits only), and no significant potential for debris flows (MGSA, 2022).

Impacts and Mitigation Measures

a. i- iv. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?

The Project site is not within an active fault zone, and the potential for secondary seismic related effects such as liquefaction, lateral spreading, surface fault rupture, settlement, and slope instability are all considered negligible due to the Project location (flat valley floor, occurring primarily within developed roadway) and type (linear excavation for buried storm drain). The Project would not expose people or structures to additional risk associated with seismic activity or liquefaction.

The Project is located on the relatively flat (0-9 percent slopes) valley floor of Ross/San Anselmo and is not mapped as an area at risk of, or with a history of landslide or debris slides. The Project would have ***no impact***.

Mitigation Measures: None required.

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

Project construction would not result in the potentially significant loss of topsoil in that, apart from the outlet area in San Anselmo Creek, Project excavation would primarily be of developed surfaces: paved road, concrete sidewalk, and gravel driveways. Excavation and earthmoving activities would expose soils at the site and could result in soil erosion. However, soil erosion

would be limited by Project timing; construction is planned to take place during the dry season (May through September) when sediment mobilization from runoff is least likely to occur. Further reducing the risk of erosion, the contractor would implement standard construction practices and BMPs for erosion and sediment control and site repair through implementation of **Mitigation Measure BIO-4, BIO-8, and BIO-9** (See Section 3.4, "Biological Resources"). Because of project timing, lack of erodible surfaces over most of the Project, and implementation of erosion control and stabilization measures, the Project would have limited potential to result in substantial soil erosion and no significant potential for loss of topsoil. This impact would be considered ***less than significant.***

Mitigation Measures: None required

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?

As described in question a, the Project would not increase risk of landslide, subsidence, liquefaction, or collapse. ***No impact*** would occur.

Mitigation Measures: None required.

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

Soils in the proposed Project site are classified by the NRCS as Xerorthents-Urban land complex soils. This soil complex can represent a variety of soil types from fill and reworking for urban development but are not generally associated with expansive soil types. The Project site is mapped by the Marin Map as containing soils that are not expansive (MGSA, 2022). The Project would have ***no impact***.

Mitigation Measures: None required.

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

No septic tanks or alternative wastewater disposal systems are proposed as part of the Project. There would be ***no impact.***

Mitigation Measures: None required.

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

As described above, the Project soils are Xerorthents-Urban land complex soils, which are depositional soils heavily altered by urban development and, therefore, have variable soil

characteristics. The depth and composition of the Xerorthents-Urban land complex soils at the Project location is not known.

Paleontological sensitivity of the site is tied to the underlying geologic unit. Fossils are typically found in older (not Holocene) sedimentary rock. The Project site is underlain by alluvium (sedimentary Holocene or Pleistocene) toward Bolinas Avenue and the Franciscan complex (low grade metamorphic rock, sandstone and shale) toward the Sir Francis Drake Boulevard Bridge (Blake, 2000). The geologic materials consisting of Holocene alluvium and Franciscan complex are widespread throughout the Coast Ranges and are not considered to often yield unique paleontological features. Additionally, documented paleontological resources in Marin County are concentrated in western Marin County (Tomales Bay, Bolinas, Drakes Beach, Dillon Beach, etc.) (University of California Museum of Paleontology [UCMP], 2023). The area where the storm drain pipe is proposed is crossed by many underground utilities and has been disturbed by roadway and utility development. Therefore, the likelihood of encountering intact paleontological resources is low, therefore the Project would have a ***less than significant impact*** on paleontological resources.

Mitigation Measures: None required.

3.8 Greenhouse Gas Emissions

Would the Project:

Question	CEQA Determination
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

Environmental Setting

Various gases in the earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. GHGs are gases in the earth's atmosphere that trap heat through a phenomenon called the greenhouse effect. Prominent GHGs that contribute to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHG emissions from human activities have greatly increased GHG concentrations in the atmosphere and caused levels of warming far above natural levels, resulting in global climate change.

In California, these activities are associated primarily with on-road and off-road transportation (passenger vehicles and heavy-duty vehicles are top contributors), followed by industrial/manufacturing activities, electricity generation and consumption, residential and commercial on-site fuel use, agriculture (including livestock), and forestry (California Air Resources Board [ARB] 2022).

Climate change is a global issue because GHGs are global pollutants, and even local GHG emissions contribute to global impacts. The state of California is leading the nation in setting goals and regulating GHG reduction. The most notable of these is Assembly Bill 32 – California Global Warming Solutions Act of 2006 (AB 32), which requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap.

The BAAQMD is tasked by California ARB under AB 32 to regulate GHG emissions related to discretionary Project approvals under CEQA. At the state and local level, there are no GHG emission thresholds for construction only Projects (BAAQMD, 2017).

The Town of Ross has an adopted Climate Action Plan (2010a) that includes the following recommended actions applicable to the Project:

- 7.b) Adopt and implement a policy requiring limitations on idling for commercial vehicles, construction vehicles, buses and other similar vehicles, beyond state law, where feasible.

Impacts and Mitigation Measures

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

The new storm drain pipe and outfall would not result in population growth and would not contribute to a long-term increase in vehicle trips and associated GHG emissions in the area. Operation of the storm drain pipe would not generate GHGs.

A short-term increase in GHG emissions would result from construction activities associated with the proposed Project, including demolition of a portion of the existing road surface and sidewalk, trenching for the pipe and outlet, and haul/dump trucks for cut and fill materials. These activities would generate greenhouse gases, such as carbon dioxide, methane, nitrogen dioxide, and short-term generation of aerosols from diesel exhaust. Construction of the Project would also emit nitrogen oxides and reactive organic gases, which are ozone precursors.

Overall, due to the scale and nature of construction activities, the short-term construction-generated GHG emissions would not result in a significant individual or cumulative contribution to GHG emissions. The implementation of **Mitigation Measure AIR-1** (See Section 3.5 "Air Quality") requires implementation of engine emissions control measures which would further reduce the impact. This impact would be ***less than significant***.

Mitigation Measures: None required.

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

California legislation has been adopted to address GHG impacts and set goals for GHG emissions reductions state-wide and the BAAQMD has prepared guidance for CEQA analysis of GHG emissions. Although the proposed Project would generate GHG emissions during construction, the Project does not increase operational GHG emissions and therefore does not impede state or regional goals for reducing GHG emissions. Additionally, the Project implementation of **Mitigation Measures AIR-1** (See Section 3.5 "Air Quality") complies with the stated

goal/recommendation of the Town of Ross Climate Action Plan. The Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, there would be ***no impact***.

Mitigation Measures: None required.

3.9 Hazards and Hazardous Materials

Would the Project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant Impact
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?	Less than Significant Impact with Mitigation Incorporated
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less than Significant Impact
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?	No Impact
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?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less than Significant Impact

Environmental Setting

The California Department of Toxic Substances Control's (DTSC's) EnviroStor website, which provides data related to hazardous materials spills and cleanups, did not identify hazards related to cleanup sites on or near the Project site (DTSC 2023).

The State Water Resources Control Board's GeoTracker website, which provides data relating to leaking underground storage tanks and other types of soil and groundwater contamination, along with associated cleanup activities, identifies two sites of potential soil contamination near the Project site. The nearest site is 350 feet away on Garden Road (Case #:21-0187); the second is 550 feet away on Winship Road (Case #: 21-0220). Both sites involved home heating fuel oil leaks on private property and were resolved in the 1990s. Neither site would be affected by the Project.

Impacts and Mitigation Measures

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

Operation of the proposed Project would not involve the routine transport, use, or disposal of hazardous materials.

During construction, the Project is expected to temporarily involve the transport, storage, use, and disposal of hazardous materials (e.g., gasoline, diesel fuel, oil, and lubricants) that could pose a significant threat to human health and the environment if they are not properly managed. The transport, storage, use, and disposal of hazardous materials are subject to local, state, and federal hazardous waste regulations designed to reduce risks associated with hazardous materials, including potential risks associated with accidental release of hazardous materials. Compliance with the existing regulations is mandatory; therefore, implementation of the Project would not create a significant hazard to construction workers, the public, or the environment through the routine transport, use, or disposal of hazardous materials. The impact would be ***less than significant.***

Mitigation Measure BIO-4 (See Section 3.4, "Biological Resources"), would further reduce risk of hazardous materials exposure since secondary containment requirements for fuel/oil storage and refueling requirements, among other construction site BMPs, would reduce the potential for the Project to create a hazard to the public or environment through the use, transport and disposal of potentially hazardous materials associated with construction vehicle operation.

Mitigation Measures: None required.

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?

Operation of the proposed Project would not involve the use of hazardous materials.

Commonly encountered hazardous materials in construction Projects with earthmoving, include naturally occurring asbestos; naturally occurring asbestos is present in Marin County, but is not in the Project site (Gosen 2011). At the Project site, Sir Francis Drake Boulevard was the historic route of the Marin line of the Northern Pacific Coast Railroad (built in 1874). From Sausalito, the rail line traveled though Ross Valley to San Anselmo where it branched west to Tomales and east to San Rafael. By the 1950s, the railroad was replaced by the road now known as Sir Francis Drake Boulevard (McAnally 1927).

Construction of the Project would involve soil excavation, and thus could encounter soil contaminants including aerially deposited lead due to the burning of leaded fuels, asbestos-

containing material within the road material, and metals and creosote, among others, due to historic railroad operations. If aerially deposited lead or asbestos-containing material are present, handling of these materials would be in accordance with applicable regulations for construction worker safety including Occupational Safety and Health Administration and California Division of Occupational Safety and Health regulations. To evaluate and manage the potential risk of hazardous materials in soils in the Project site, the Project will implement **Mitigation Measure HAZ-1**, which requires that the contractor conduct soil characterization in order to make decisions regarding reuse and/or disposal of spoils consistent with applicable regulations. Additionally, as discussed in Section 3.3, "Air Quality", the Project would comply with the BAAQMND Fugitive Dust Regulations (6-1 and 6-6) to reduce PM emissions. This rule would limit the amount of dust emitted by the Project to the extent feasible, thus compliance would reduce the potential for inhalation of soils associated with the Project site. Since **Mitigation Measure HAZ-1** would require that the Project identify and address potential hazardous substances that may be encountered during construction, this impact would be considered ***less than significant with mitigation incorporated***.

Mitigation Measures: Mitigation Measure HAZ-1.

Mitigation Measure HAZ-1: Conduct Soil Characterization

Prior to construction, the Project will conduct soil characterization to determine potential for hazardous materials that may be present in the Project site. Analytical results from soil and materials samples will be compared to state and federal standards to evaluate reuse and/or disposal requirements for contaminated soils and materials. If lead or other contaminants are detected at concentrations levels that exceed the regulatory limits, the Project will prepare a Project-specific compliance plan (CCR Title 8, §1532) to address handling, reuse, and disposal of contaminant-impacted materials.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?

Operation of the proposed Project would not involve the emission or handling of hazardous materials.

Construction of the proposed Project would occur within ¼ mile of an existing school. St. Anselm School (kindergarten through eighth grade) is located approximately 475 feet northwest of the Project site at 40 Belle Avenue. As discussed under question 'b', the Project would comply with BAAQMND Fugitive Dust Regulations which would limit the amount of dust emitted by the Project and reduce the potential for inhalation of soils associated with the Project site. In addition, Mitigation Measure HAZ-1 would require characterization of excavated materials and

development of a Project-specific compliance plan for the handling of any identified contaminant-impacted materials. The impact would be ***less than significant.***

Mitigation Measures: Mitigation Measure HAZ-1 (See subsection 'b' above).

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 to the environment?

As described above, the Project is not located on a site included on a list of hazardous materials sites. The Project would result in no impacts associated with emissions from hazardous materials sites. Consequently, ***no impact*** would occur.

Mitigation Measures: None required.

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 a public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The San Rafael Airport, located at 400 Smith Ranch Rd, San Rafael, CA, is the nearest airport to the Project site and is located 8 miles from the Project site. The Project site is not located within an airport land use plan. The Project would have no impacts associated with airport hazards. Consequently, ***no impact*** would occur.

Mitigation Measures: None required.

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

Sir Francis Drake Boulevard is a major evacuation route for the Town and surrounding communities. Prior to construction, the Project contractor would prepare and submit a Traffic Control Plan to the Town and, once approved, emergency service providers. Construction activities would occur in stages, with minor traffic alterations anticipated. There would be no road closure; traffic control for lane closure may be required, however, a minimum of one lane would be kept open at all times. Emergency response times would not substantially increase due to traffic alterations. Therefore, the Project would have a ***less than significant*** impact on emergency response and evacuation. See also Sections 3.15, "Public Services" and 3.17, "Transportation."

Mitigation Measures: None required.

g. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The Project would be partially located in the Wildland Urban Interface (WUI) environment and is mapped as a moderate fire hazard *severity* zone (evaluation of the physical conditions that create a likelihood and expected fire behavior) and a high to very high fire *risk* area (potential damage a fire could cause to the area under existing conditions) by the Marin General Services Authority (MGSA 2023). The Project site is not located in an area that the California Department of Forestry and Fire Protection (CalFire) has determined to be a very high fire hazard severity zone (2022). See Figure 10 in Section 3.20, "Wildfire" for more information.

Operation of the Project would not include any permanent components that would expose people or structures to increased wildfire risk. Construction of the Project would include the use of fuel burning equipment on unsurfaced road shoulders and adjacent to the stream in this high fire risk area. To minimize the risk to the environment and the community from construction work in a high fire risk area, the Project would implement BMPs for wildland fire prevention as **Mitigation Measure HAZ-2**. The Project would have a ***less than significant impact with mitigation incorporated***.

Mitigation Measures: Mitigation Measure HAZ-2.

Mitigation Measure HAZ-2: Implement BMPs for Fire Prevention

The Town shall ensure that the construction contractor will clear dried vegetation or other materials that could serve as fuel for combustion from construction or building areas. To the extent feasible, the contractor shall keep these areas clear of combustible materials. Construction contractors shall ensure that any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws.

3.10 Hydrology and Water Quality

Would the Project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than Significant Impact with Mitigation Incorporated
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the Project may impede sustainable groundwater management of the basin?	No Impact
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;	Less than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	No Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	No Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No impact

Environmental Setting

The Project site is located within the Corte Madera Creek Watershed. Corte Madera Creek is a major waterway in Marin County, reaching from the San Francisco Bay to the Town of Fairfax and beyond (see Figure 8, below). The Corte Madera Creek watershed ranges in elevation from sea level to 2,571 feet at the East Peak of Mount Tamalpais. The watershed covers 28 square miles in the southeastern quarter of Marin County and encompasses the Towns of Larkspur, Corte Madera, Kentfield, Ross, San Anselmo, and Fairfax. The watershed includes Corte Madera Creek mainstem and major tributaries of Fairfax Creek, San Anselmo Creek, Sleepy Hollow Creek, Tamalpais Creek, and Larkspur Creek. Larkspur and Tamalpais creeks drain directly into the estuary/tidal portion of the watershed. Ross Creek drains the northern slope of Mt. Tamalpais with Phoenix Lake on the lower reach of the creek; San Anselmo Creek and its tributaries drain the northwestern portion of the watershed. These two creeks join to form Corte Madera Creek, which

Figure 8. Hydrological Features in Project Vicinity

continues through more than a mile of concrete-lined channel past the confluences of Larkspur and Tamalpais Creeks and into the tidal saltmarsh near the town of Kentfield which drains into San Francisco Bay near the town of Corte Madera. Both Corte Madera Creek and the San Francisco Bay are identified by the CWA Section 303(d) List as impaired waterbodies for diazinon and pesticide-related toxicity (Resolution No. R2-2005-0063).

Corte Madera Creek has flooded Ross Valley in recent history; the two most severe floods occurred in 1982 and 2005. Historical flooding has caused extensive property damage and economic hardship to residents, businesses, and local governments, and has threatened the lives of those living in the floodplain, with at least one recorded death occurring in the 1955 flood and at least one rescue by Urban Search and Rescue personnel during the 2005 flood.

The Ross Valley Flood Reduction and Watershed Management Program (Ross Valley Program), which is administered by the Marin County Flood Control and Water Conservation District, intends to substantially reduce the flood hazard in Ross Valley, with various program objectives designed to integrate restoration of creek ecological and floodplain function and other public resource enhancements with the primary objective of flood protection. Specific objectives of the Ross Valley Program include providing a 100-year flood level of protection throughout Ross Valley; improving riparian and aquatic habitat, particularly to aid in the recovery of special-status anadromous salmonids; and enhancing access and public enjoyment of the creek.

The San Anselmo Creek watershed drains an area of about 14.7 square miles, of which approximately 70 percent is natural environment and 30 percent is urban (CDFW 2013). The headwaters of San Anselmo Creek are located within open space and Marin Municipal Water District lands east of Pine Mountain and west of the town of Fairfax. Cascade Creek, a major tributary, drains from Cascade Canyon to the north and joins San Anselmo Creek approximately 1 mile below its headwaters. From there, San Anselmo Creek flows east through the Town of Fairfax to its confluence with another major tributary, Fairfax Creek, and then flows east through the town of San Anselmo where it is joined by Sleepy Hollow Creek, the last major tributary stream. From this point, it flows southwest through the Project site and becomes Corte Madera Creek at its confluence with Ross Creek approximately 0.14 mile downstream of the Project.

The majority of the Project site is designated as a Special Flood Hazard Area on the Federal Emergency Management Agency (FEMA) flood hazard map, and portions of the Project site are located within the 100-year floodplain (Figure 9) (FEMA 2023). San Anselmo Creek is designated as a Regulatory Floodway.

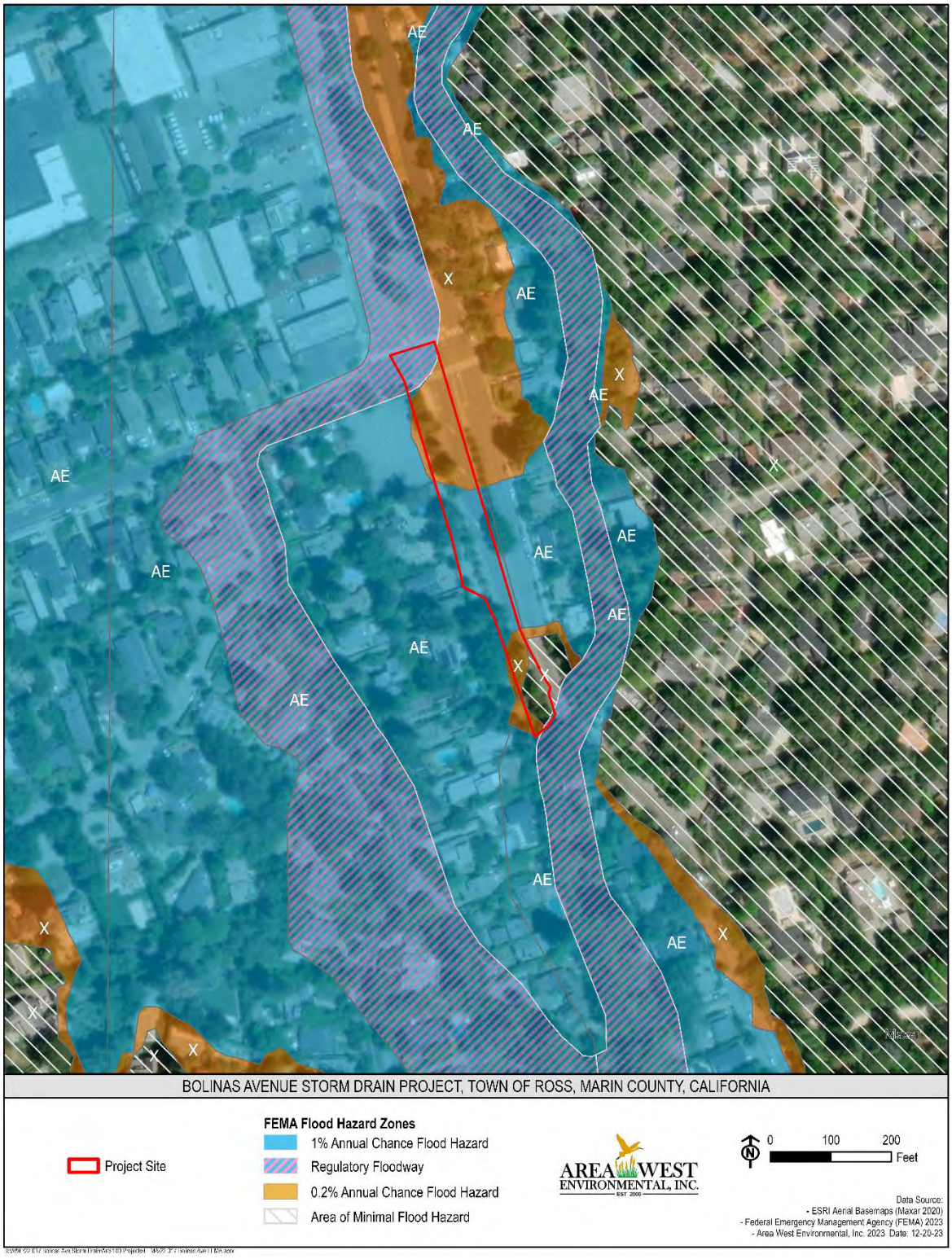


Figure 9. FEMA Flood Hazard Map

Impacts and Mitigation Measures

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

Operation of the Project would have no impact on surface or ground water quality.

Construction-related activities from the proposed Project (the outfall construction) would occur in areas adjacent to and within San Anselmo Creek that could potentially degrade water quality as a result of construction-related soil disturbance and discharge of construction stormwater. Additionally, fuels and other chemicals used during construction could also degrade the water quality of receiving waters if spilled and entrained into stormwater runoff or dewatering discharges.

The primary stormwater pollutant at construction sites is excess sediment. Excess sediment can cloud the water, which reduces the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and impede navigation in waterways. Sediment also transports other pollutants such as nutrients, metals, and oils and greases. Hazardous materials associated with construction equipment and practices, such as fuels, oils, antifreeze, coolants, and other substances, could also adversely affect water quality if released to surface waters.

A project that disturbs more than one acre of soil is subject to the State Construction General Permit and requires a Stormwater Pollution Prevention Plan. Since the Disturbed Soil Area for the Project is less than one acre, an ESCP would be required by Marin County Stormwater Pollution Prevention Program (MCSTOPPP 2015). Deploying the ESCP and applying the water quality BMPs (such as use of fiber rolls for reducing erosion on slopes) would minimize water quality impacts during construction. Additionally, prior to in-channel construction activities, the Town would complete the Section 404 and 401 Clean Water Act permitting process and obtain an SAA from CDFW. Conditions of approval outlined in the respective permits could also help alleviate potential water quality impacts resulting from the pipe excavation and outfall construction activities within San Anselmo Creek.

Construction dewatering at the Project site would be required to create dry work areas for the construction of the outfall, which requires that the rock riprap apron be buried (keyed in) to 5 feet below the surface of the creek bed. Sediment or other water pollutants originating from construction equipment, or the surrounding disturbed land could be released with the dewatered water, degrading surface water quality.

As described in Section 3.6 “Biological Resources”, water quality BMPs and water diversion and dewatering methods will be observed under **Mitigation Measure BIO-4** and **BIO-6**, respectively, which would minimize the Project’s water quality impacts. Consequently, this impact is ***less than significant with mitigation incorporated***.

Mitigation Measures: Mitigation Measure BIO-4, BIO-6 (See Section 3.4, "Biological Resources").

Mitigation Measure BIO-4: Implement Water Quality Best Management Practices (BMPs)

Mitigation Measure BIO-6: Prepare and Implement Water Diversion and Dewatering Plan

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?

The proposed Project would not require the use of groundwater or substantially interfere with groundwater recharge. The new storm drain would not result in new amounts of impervious surfaces that would affect local groundwater levels. Therefore, the Project would not substantially deplete groundwater supplies and would not affect groundwater recharge such that a net deficit would occur. Consequently, ***no impact*** would occur.

Mitigation Measures: None required.

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: result in substantial erosion or siltation on- or off-site, substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, 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 impede or redirect flood flows?

The Project would install a new drain pipe that would intersect and divert stormwater from the existing system to a new outfall into San Anselmo Creek at a point immediately downstream of the Sir Francis Drake Bridge. The existing system currently delivers stormwater to the Winship Bridge delivery outfall on San Anselmo Creek, which is approximately 570 feet upstream of the proposed outfall.

The Project would capture stormwater from and deliver stormwater into the same creek within the same subwatershed as the current drainage condition. Therefore, the Project would not result in additional water inputs to San Anselmo Creek. The Project would not increase impervious surfaces such that runoff volumes or rates would change. Drainage patterns would remain the same. No new downstream flooding would occur because of the Project. The purpose of the Project (Section 2.3) is to improve the stormwater drainage system and reduce flooding on Bolinas Avenue.

For these reasons, the potential impacts of the proposed Project resulting from altered drainage patterns would be considered ***less than significant.***

Mitigation Measures: None required.

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

The Project falls within the 100-year flood zone of San Anselmo Creek (Figure 9) (FEMA 2023). None of the Project elements are within the tsunami inundation zone, which in Ross Valley extends from the bay shoreline inland along Corte Madera Creek to Kentfield (south of the Town of Ross) (CGS, 2022). A seiche could occur in any reservoir located in Marin County and in the San Pablo and San Francisco bays. Although the extent of potential seiche runup in these water bodies is unknown, runup in the bays is thought to be less in magnitude than the runup of potential tsunamis along the Pacific Coast. (Marin County 2005) Operation of the Project does not include use or storage of pollutants. In the event of a flood, the proposed drainage pipe and rock riprap apron would be stabilized, non-hazardous features of the environment that would not contribute pollutants to the flood event. Consequently, ***no impact*** would occur.

Mitigation Measures: None required.

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

The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Project would have no impact on surface or groundwater quality. ***No impact*** would occur.

Mitigation Measures: None required.

3.11 Land Use and Planning

Would the Project:

Question	CEQA Determination
a) Physically divide an established community?	No impact
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?	No impact

Environmental Setting

Encompassing approximately 1.6 square miles, Ross is the second smallest jurisdiction in Marin County. The town is largely developed with single-family homes set in a valley between wooded hillsides. The center of the community is located just west of Sir Francis Drake Boulevard and flanked by the Ross Post Office, the Ross School, and the downtown commercial area. The Ross Civic Center, comprised of the Town Hall and Public Safety Building, is located just north of the Post Office on the west side of Sir Francis Drake.

The Project site is designated as Medium Low Density (Area C – Traditional Neighborhood) under the existing Town of Ross General Plan (Town of Ross, 2007) and zoned as Single Family Residential (R-1_B-10). Per the Town's Zoning description, R-1 is defined as single family residence district and B is defined as special building site district (Town of Ross, 2018a).

Impacts and Mitigation Measures

a, b. Would the project physically divide an established community; conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The physical division of an established community typically refers to the construction of a linear feature, such as an interstate highway or railroad tracks, or removal of a means of access, such as a local bridge that would impact mobility within an existing community or between a community and outlying area. The Project does not involve any such features and would not permanently remove any means of access or impact mobility.

The Project would not change existing land use designations, zoning, or conflict with local land use policies. The Project would help achieve the following goals of the Town General Plan to protect creek habitat and reduce flooding hazards (Town of Ross 2007):

- **6.2 Flood Control Improvements.** The Town supports the construction of flood control improvements consistent with the natural environment, the design character of the Town of Ross and the safety and protection of persons and property.

- **6.4 Runoff and Drainage.** Stormwater runoff should be maintained in its natural path. Water should not be concentrated and flow onto adjacent property. Instead, runoff should be directed toward storm drains or, preferably to other areas where it can be retained, detained, and/or absorbed into the ground.

Construction of the Project would temporarily impact vehicle, pedestrian, and bicycle traffic through the Project site, but this would be short term impact with vehicle, pedestrian, and bicycle traffic passage considered and submitted to the Town in the Project's Traffic Control Plan. The Project would add a new, underground, stormwater drainage pipe and development would not modify the exiting site land use or surrounding land use designations. The Project would comply with all applicable zoning requirements and regulations and is consistent with General Plan development and transportation policies. For these reasons, there would be ***no impact***.

Mitigation Measures: None required.

3.12 Mineral Resources

Question	CEQA Determination
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?	No impact
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?	No impact

Environmental Setting

The State Mining and Geology Board maintains information on mineral deposits of statewide or regional significance. The North Bay region, comprising Sonoma, Marin, and Napa counties, places an ongoing demand on crushed stone and alluvial deposits for construction materials, including asphaltic concrete, aggregate, road base and sub-base, and Portland cement concrete.

Impacts and Mitigation Measures

a and b. Would the project result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State; or 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?

There are no mineral preservation sites located in the Town of Ross as noted in the Marin Countywide Plan (Marin County Community Development Agency, 2023). Thus, the proposed Project would not result in the loss or availability of a known mineral resource that would be of value to the region and the residents or the state. In addition, no locally important mineral resource recovery sites are delineated in the Town of Ross General Plan or other land use plans. Therefore, the Project would result in ***no impact*** to mineral resources.

Mitigation Measures: None required

3.13 Noise

Would the Project result in:

Question	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant Impact
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	No impact

Environmental Setting

The Project site is primarily composed of single-family residential homes except for the northwest corner of the Sir Francis Drake and Bolinas Avenue intersection, where there is a liquor store, a gym, and a large parking lot that serves as overflow parking for a church. The proposed excavation area for the storm drain puts the Project, at its closest point, approximately 50 feet away from one residential building. Although residential buildings in the area may include older, plaster on lath construction, there are no fragile historic buildings within 50 feet of the Project excavation area.

Noise

Noise is generally defined as sound that is loud, disagreeable, or unexpected and is measured in A-weighted decibels (dBA).

The proposed Project is subject to the following construction noise regulations of the Town:

- **Town of Ross General Plan**. **Policy 5.10 Traffic and Construction Noise.** Require mitigation of construction and traffic noise impacts on the ambient noise level in the Town.
- **Town of Ross Municipal Code. Section 9.20.035, Construction.** It is unlawful for any person or construction company within the Town limits to perform any construction operation before 8:00 a.m. or after 5:00 p.m., Monday through Friday of each week and not at any time on Saturday, Sunday, or the other holidays listed in Section 9.20.060.

Ambient noise levels in the Project site are primarily influenced by vehicular traffic on Sir Francis Drake Boulevard. Sir Francis Drake Boulevard has significantly higher ambient noise levels than the surrounding community, such that Policy 5.7 of the Town of Ross Noise Standards for Exterior Residential areas (Town of Ross 2007), specifically exempts properties located along Sir Francis Drake Boulevard from those standards.

The Federal Highway Administration (FHWA) Construction Noise Handbook reports noise levels for construction equipment; potential equipment that the Project may use and corresponding noise levels at 50 feet away are reproduced below, Table 4.

Table 4. Noise Levels from Typical Construction Equipment

Equipment Type	Average Maximum Noise (Lmax, dBA) at 50 feet away
Air Compressor	80
Backhoe/Front End Loader	80
Compactor (Ground)	80
Concrete Mixer Truck	85
Concrete Saw	90
Crane	85
Excavator/Scraper	85
Generator	82
Hydraulic Break Ram	90
Jack Hammer	85
Impact Hammer/Hoe Ram (Mounted)	90
Pavement Scarifier/Roller	85
Paver	85
Pneumatic Tools	85
Pumps	77
Truck (Dump/Flat Bed)	84
Based on maximum equipment noise levels, averaged. *Sources: FHWA 2006; Federal Transit Administration 2018*	

Vibration

During construction, equipment can cause groundborne vibrations when in close proximity to fragile buildings/structures and/or when used for long durations. Groundborne vibration can be damaging to structures and disrupt human activities. The FHWA describes building damage due to construction equipment vibration as more common in Projects that include blasting or piledriving (FHWA, 2018). The Town of Ross does not have adopted criterion pertaining to construction generated groundborne vibration; neither are there state or federal regulations limiting groundborne vibrations.

Impacts and Mitigation Measures

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 proposed Project would not result in long-term changes in vehicle traffic or noise compared to existing conditions along Bolinas Avenue and Sir Francis Drake Boulevard. Noise generated by the proposed Project would be limited to short-term construction activities. Construction noise is not anticipated to be concurrent or additive, as the new pipe construction will be completed in discreet sections, and each section will have a basic sequence: surface excavation, followed by pipe laying, and then filling, compacting, and surfacing.

Noise from Project construction equipment would create conditions louder than existing ambient conditions. According to Table 4, the Project construction components likely to produce the most noise are those associated with breaking concrete or pavement for removal. During construction, noise from construction activities may intermittently dominate the environment in the immediate area of construction, affecting nearby sensitive receptor (residences). Impacts to sensitive receptors and increases in noise levels would be temporary.

According to the Town's Municipal Code, noise from construction activity is exempt from the Town noise performance standards provided that all construction in or adjacent to residential areas shall be limited to the daytime hours between 8:00 a.m. and 5:00 p.m. Anticipated Project construction noise would be short-term and intermittent and would be limited to daytime hours. Therefore, the Project would have a ***less than significant*** impact on noise.

Mitigation Measures: None required.

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

The Project would not change operational groundborne vibrations.

Construction of the proposed Project would not involve the use of major vibration-generating equipment or processes that would result in potentially significant levels of ground vibration; no blasting or piledriving is proposed. Construction activities associated with the proposed Project would use equipment that would result in temporary sources of groundborne vibrations. The Project would have a ***less than significant impact*** due to the generation of groundborne vibration or groundborne noise levels.

Mitigation Measures: None required.

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 in or working in the project area to excessive noise levels?

The San Rafael Airport, located at 400 Smith Ranch Rd, San Rafael, CA, is the nearest airport to the Project site and is located 8 miles from the Project site The proposed Project is not located within 2 miles of a public or public use airport or in the vicinity or a private air strip. The Project site is generally not subject to high levels of aircraft noise and would not result in a safety hazard for individuals or construction workers located in the proposed Project site. Therefore, there would be ***no impact***.

Mitigation Measures: None required.

3.14 Population and Housing

Would the Project:

Question	CEQA Determination
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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

Environmental Setting

The Town of Ross, which incorporated in 1908 and covers approximately 1.6 square miles, has a population of 2,338 and an estimated 880 housing units (U.S. Census Bureau 2020).

Impacts and Mitigation Measures

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

The Project would improve the capacity and function of the storm drain system, relieving a chronically backed up drain that often floods the intersection of Richmond Road and Bolinas Avenue. The Project would improve intersection safety for residents and travelers; the Project would not induce growth. Construction would last up to 5 months utilizing a construction crew sourced from the surrounding Bay Area workforce. No additional housing or temporary lodging facilities would be required by construction workers commuting to the Project site. Therefore, the Project would have ***no impact*** on population growth.

Mitigation Measures: None required.

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

The installation of a new storm drain and outlet would not involve the construction, displacement, or demolition of any existing housing structures. Consequently, ***no impact*** would occur.

Mitigation Measures: None required.

3.15 Public Services

Question	CEQA Determination
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	Less than Significant Impact
Police protection?	Less than Significant Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

Environmental Setting

Fire Protection Services

Fire protection services are provided by the Ross Valley Fire Department; Fire Station 18 is located at 33 Sir Francis Drake Boulevard in Ross, approximately 1,900 feet south of the Project. The fire department provides fire suppression, emergency medical services, public education, and disaster preparedness. Daily on-duty emergency response personnel consist of a Fire Captain and an Engineer/Firefighter. The fire station has one first duty Type 1 Fire Engine (structural firefighting) and a reserve Type 1 Fire Engine, which can be staffed by off-duty and volunteer personnel as needed. The fire station also has a Ross Valley Paramedic Authority transport ambulance, staffed with two paramedic firefighters. (Ross Valley Fire Department 2024)

Police Protection Services

Police protection services are provided by the Ross Police Department, located at 33 Sir Francis Drake Boulevard in Ross, approximately 1,900 feet south of the Project. Personnel include the Chief of Police, two police sergeants, and two police officers. The December 2023 police activity report indicates there were 1,246 total calls for service in 2023, including arrests, citations, property crimes, and traffic. (Town of Ross 2024)

Schools

The Project site is located within the Ross School District. The Ross School is located at 9 Lagunitas Road, approximately 2,100 feet south of the Project; a single-site school district serving approximately 385 students in kindergarten through eighth grade. The Branson School is a private high school located at 39 Fernhill Avenue, approximately 1,500 feet southwest of the Project; serving approximately 370 students. For public high school, students attend Redwood

High School located at 395 Doherty Drive in Larkspur, approximately 2.5 miles southeast of the Project.

Parks

There are two community parks located in the Town; the Frederick S. Allen Park located at 31 Sir Francis Drake Boulevard and the Natalie Coffin Greene Park located at the end of Lagunitas Road. These parks are described in more detail in Section 3.16 "Recreation".

Other Public Facilities

The José Moya del Pino Library and Ross Historical Society are located at the Marin Art and Garden Center at 30 Sir Francis Drake Boulevard, approximately 1,900 feet south of the Project. The library maintains a collection of works related to art, decorative arts, architecture, gardening, and local history and has a first Thursdays forenoon program from March to November where art and history presentations are given by historians, authors, artists, scholars, or experts in a given field.

Impacts and Mitigation Measures

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, police protection, schools, parks, or other public facilities?

The Project would add a new storm drain and outlet to the existing municipal storm drain system. The Project would not create new housing or other structures and, therefore, would not require additional public services (including fire or police protection facilities, schools, or parks). Consequently, ***no impact*** would occur to governmental facilities.

Lane closures on Sir Francis Drake Boulevard during construction could result in significant traffic congestion or delays and impact emergency response times, but as described in **Mitigation Measure TRAFFIC-1** (see Section 3.17 "Transportation"), emergency services providers would be notified of traffic control measures and plans. With advanced notification of lane closure, the Project would not adversely affect emergency services response times. Therefore, the Project would have ***less than significant impact*** on response times for fire and police protection.

Mitigation Measures: None required.

3.16 Recreation

Question	CEQA Determination
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?	No Impact
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact

Environmental Setting

The Frederick S. Allen Park is located at 31 Sir Francis Drake Boulevard. It has a well-maintained multi-use path along Corte Madera Creek. The Natalie Coffin Greene Park is a 25-acre park located at the end of Lagunitas Road. This park includes a small parking lot, picnic tables, walking trails, and Ross Creek passes through it. It is a short hike from Phoenix Lake which is a starting point for many other hiking and mountain biking trails. Pixie Park is volunteer-run, members-only, cooperative playground for children ages 6 years and younger, located in the Marin Art and Garden Center. The Town Recreation Department provides recreational activities, community events, and services to the residents of Ross. The department offers programs for youth and adults including sports, afterschool enrichment, and instructional classes.

Impacts and Mitigation Measures

a, b. 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; or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

There are no parks or recreational facilities within the Project site. The proposed Project does not include the development of new residential uses or include other land development that would directly induce population growth affecting existing recreation facilities or opportunities. Employment opportunities from the construction phase of the Project would not induce any additional population growth within the Town of Ross or Marin County. Therefore, the Project would not cause physical deterioration of existing recreational facilities from increased usage or result in the need for new or expanded recreational facilities. Consequently, ***no impact*** would occur.

Mitigation Measures: None required.

3.17 Transportation

Would the Project:

Question	CEQA Determination
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Less than Significant Impact with Mitigation Incorporated
b) Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less than Significant Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No impact
d) Result in inadequate emergency access?	Less than Significant Impact with Mitigation Incorporated

Environmental Setting

Sir Francis Drake Boulevard bisects the Town of Ross in a north-south direction and serves as the major east-west arterial from West Marin to Highway 101. Collector streets that are intended to carry traffic from minor residential streets to Sir Francis Drake Boulevard include Bolinas Avenue, Shady Lane, Laurel Grove Avenue, Lagunitas Road, and Poplar Avenue.

A Class III bikeway crosses the Town of Ross in a north-south direction; it provides for shared use with motor vehicle traffic and is identified only by signing (Town of Ross 2010b). In the vicinity of the proposed Project, the bikeway is located along Shady Lane which runs parallel to and approximately 300 feet west of Sir Francis Drake Boulevard. The bikeway also follows Bolinas Avenue from San Anselmo Avenue west from the proposed Project, and San Anselmo Avenue north from the proposed Project. (Town of Ross 2018b)

Marin Transit, which contracts its services with Golden Gate Transit, provides access to San Francisco, Southern and Central Marin, Marin County ferry terminals, and n Sonoma County. The Sir Francis Drake Boulevard and Bolinas Avenue bus stop (Stop Code: 40487) is located within the Project site. This stop serves the following bus routes:

- 22 – Downtown San Rafael to Marin City
- 228 – Downtown San Rafael to Fairfax Manor

The Town of Ross General Plan (2007) Policies require that diversions off of Sir Francis Drake should be avoided and that care is taken to avoid unanticipated traffic consequences along the corridor in the following policies:

- **General Plan Policy 7.3 Traffic Diversions.** Minimize diversion of Sir Francis Drake Boulevard traffic onto local streets and reduce incidents of speeding and other unsafe behavior.

- **General Plan Policy 7.4 Traffic Impacts.** Ensure that full CEQA review is undertaken of significant development proposals in Ross, in nearby areas and along the Sir Francis Drake Boulevard corridor that may impact traffic operations, safety, air quality and other environmental conditions.

Impacts and Mitigation Measures

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

Implementation of the proposed Project would help to improve roadway safety at the Bolinas Avenue and Richmond Road intersection by reducing the frequency and intensity of flood events.

While the proposed Project would not conflict with local Town circulation policies, construction of the Project could result in temporary traffic delays due to anticipated lane closure on Sir Francis Drake Boulevard. Re-routing off of Sir Francis Drake Boulevard is not anticipated. Additionally, Project implementation would require the temporary removal and relocation, then reconstruction of the existing Marin Transit bus stop. The Town would coordinate with the transit provider to identify a temporary bus stop location.

To minimize traveler delays and provide uninterrupted residential circulation and access along Sir Francis Drake Boulevard during the construction period, the construction contractor would prepare and implement a Traffic Control Plan, **Mitigation Measure TRAFFIC-1,** which would be reviewed and approved by the Town. The Traffic Control Plan would minimize traffic impacts to residents and visitors. There would be no road closure. Traffic control for lane closures may be required; however, a minimum of one lane would be kept open at all times. Traffic control would include pedestrian and bicycle accommodations or detours. During construction, the contractor would provide for continuous vehicular and pedestrian ingress and egress to all private property adjacent to the work area. Once approved by the Town, but prior to construction, the contractor would provide emergency response agencies with the Traffic Control Plan. Consequently, this impact would be reduced to ***less than significant with mitigation incorporated.***

Mitigation Measures: Mitigation Measure TRAFFIC-1.

Mitigation Measure TRAFFIC-1: Prepare and Implement a Traffic Control Plan

Prior to construction, the contractor will prepare a Traffic Control Plan. The plan will contain, at a minimum, the measures listed below, and will be submitted to the Town for approval.

- Prior to and during Project construction, the contractor shall use standard cones and barricades to protect the public from entering the construction work area. The contractor

will also install advance warning signs to alert approaching motorists of the work zones consistent with the most recent edition of the California Manual of Traffic Control Devices. The contractor shall provide flaggers as needed to temporarily hold traffic for staging equipment or construction.

- A minimum of one lane on Sir Francis Drake Boulevard will be kept open at all times.
- The contractor will maintain access or provide detours for pedestrians and cyclists.
- Written notice to each homeowner along Sir Francis Drake Boulevard and business owners adjacent to the Bolinas Avenue and Sir Francis Drake Boulevard intersection shall be provided at least 2 weeks prior to the start of the construction phase.
- The contractor will coordinate with the Marin Transit Authority and Golden Gate Transit regarding temporary closure and/or relocation of the existing bus stop.
- The contractor will provide posted notice at the bus stop of bus stop disruption and/or relocation per the direction of the Marin Transit Authority and Golden Gate Transit.
- The contractor shall provide affected residents with ingress and egress (pedestrian and vehicular) during construction.
- Prior to Project construction, the contractor will provide a copy of the approved Traffic Control Plan to local emergency services providers.

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

The new storm drain and outfall would not change the number of vehicle trips in the Project site. Construction activities would result in a negligible temporary increase in vehicle trips to the Project site by construction personnel. The proposed Project is consistent with CEQA Guidelines §15064.3(b) in that transportation projects that have no impact on vehicle miles traveled should be presumed to cause a less than significant transportation impact. Therefore, this impact is considered ***less than significant***.

Mitigation Measures: None required.

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 purpose of the proposed Project is to remove potentially hazardous flooding; no new roadway or other design features would be created or modified as a result of the Project. All disturbed roadway striping and surfacing would be replaced. The proposed Project would remove existing hazards and have ***no impact***.

Mitigation Measures: None required.

d. Would the project result in inadequate emergency access?

Implementation of the proposed Project would result in improved emergency access by reducing the occurrences of flooding at the intersection of Bolinas Avenue and Richmond Road.

As a major arterial connector in the region, traffic rerouting or lane closures on Sir Francis Drake Boulevard that result in significant traffic congestion or delays could impact emergency service providers. As described in **Mitigation Measure TRAFFIC-1**, emergency services providers will be notified of the traffic control measures and plans. With advanced notification of lane closure, the Project would not adversely affect emergency services and response times. Consequently, the Project would have a ***less than significant impact with mitigation incorporated***.

> **Mitigation Measures: Mitigation Measure TRAFFIC-1** (described in subsection "a" above).

3.18 Tribal Cultural Resources

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as 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:

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	Less than Significant Impact with Mitigation Incorporated
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less than Significant Impact with Mitigation Incorporated

Environmental Setting

Native American Consultation

As part of the tribal consultation process with Native American groups and individuals, as per 36 CFR Part 800.3, the initiation of the Section 106 process, and Assembly Bill (AB) 52 under the provisions of CEQA, AWE archaeologist Mary Baily contacted the NAHC on June 6, 2023 requesting a search of the Sacred Lands File for information about cultural resources that may be located within the APE and a request for a list of Native American contacts for Marin County. NAHC responded on June 29, 2023, with a list of Marin County Tribal contacts. The NAHC also reported that a search of the Sacred Lands File indicated that there are no sacred sites recorded within the APE. On August 16, 2023, letters describing the Project details were mailed to the following Native American contacts listed for Marin County to initiate formal consultation: Gene Bevelot and Greg Sarris of the Federated Indians of Graton Rancheria (Graton Rancheria), Bunny Tarin and Michael Derry of the Guidiville Rancheria. A response was received from Buffy McQuillen of Graton Rancheria. A meeting was held with Graton Rancheria, the Town, Harrison Engineering, and AWE on November 1, 2023. During the meeting, Graton Rancheria confirmed the cultural sensitivity of the Project site and requested subsurface testing of the APE.

Far Western Anthropological Research Group, Inc. (Far Western) conducted subsurface testing on July 1 through 3, 2024. Far Western prepared an *Archaeological Testing and Monitoring Plan* (2024), which was reviewed and approved by Graton Rancheria. A tribal monitor from Graton Rancheria was present during for subsurface testing. No Tribal Cultural Resources were identified during testing.

Table 5 provides a summary of Native American consultation activities to date.

Table 5. Native American Contact Efforts

Organization and Representatives	Initial Date Contacted	Method of Contact	Response
Federated Indians of Graton Rancheria Gene Bevelot Greg Sarris Buffy McQuillen Hector Garcia Cabrales	8/11/2023	Letters sent	9/05/2023: Response letter received from B. McQuillen formally requesting tribal consultation. 9/14/2023: Follow-up email sent requesting meeting. 9/26/2023: Phone call message left on voicemail. 11/1/2023: Meeting held with Graton Rancheria, the Town, Harrison Engineering, and AWE. 11/1/2023: Graton Rancheria requested subsurface testing of APE. 06/10/2024: Far Western sends Subsurface Testing Plan to Graton Rancheria for review. 07/01-03/2024: Graton Rancheria Tribal monitor present during subsurface testing. 10/23/2024: Far Western sends Draft Cultural Resources Reports to Graton Rancheria for review
Guidiville Rancheria of California Bunny Tarin Michael Derry	8/11/2023	Letters sent	No response received to date

Impacts and Mitigation Measures

a, b. 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 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 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.

Based on prefield research, the presence of a precontact site upstream, and consultation with Graton Rancheria, the Project site buried site sensitivity is moderate to high for Tribal Cultural Resources. However, subsurface testing completed in consultation with Graton Rancheria was negative for Tribal Cultural Resources. Implementation of the proposed Project would not result in an adverse change in the significance of a known Tribal Cultural Resource pursuant to Public Resources Code 21074.

While unlikely, construction of the proposed Project could result in the inadvertent discovery and disturbance of undocumented Tribal Cultural Resources such as Native American archaeological sites, Native American human remains and associated objects and materials, features, sacred places or objects with value to a Tribe that is culturally or traditionally affiliated with the proposed Project. To reduce this impact to a less than significant level, a qualified Tribal monitor shall be present for ground disturbing activities near San Anselmo Creek (described as **TCUL-1**), in addition to **Mitigation Measures CUL-1, CUL-2**, and **CUL-3** (as described in Section 3.5, "Cultural Resources").

To avoid and minimize potential adverse effects to Tribal Cultural Resources, implementation of resource avoidance measures provided in **Mitigation Measures CUL-1, CUL-2, CUL-3,** and **TCUL-1** would reduce the impact to less than significant. Therefore, the proposed project would have a ***less than significant impact with mitigation incorporated.***

Mitigation Measures: Mitigation Measures CUL-1 to CUL-3 (See Section 3.5, "Cultural Resources") and TCUL-1.

Mitigation Measure TCUL-1: Tribal Monitoring During Ground Disturbing Activities at San Anselmo Creek

To minimize the potential for significant impacts to Tribal Cultural Resources, a Tribal monitor shall be present during initial subsurface construction activities (e.g., trenching, grading) within 75 feet of the proposed outfall at San Anselmo Creek. Monitoring would occur during trenching, grading, and excavation for placement of riprap. If precontact and/or Tribal Cultural Resources are identified during the monitoring, procedures described in Mitigation Measures CUL-2 and CUL-3 will be followed. The Town shall fund the costs of the qualified Tribal monitor.

3.19 Utilities and Service Systems

Would the Project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than Significant Impact
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
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?	No impact
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?	Less than Significant Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Less than Significant Impact

Environmental Setting

Utilities within the Project site include overhead electrical and communication lines, and underground water, storm, natural gas, and wastewater lines. Potholing was conducted to identify the precise locations of underground utilities (Figure 3). In the Project site, electric and natural gas service are provided by Pacific Gas and Electric, water is provided by the Marin Municipal Water District, communication services are provided by Comcast and AT&T, wastewater collection is provided by the Ross Valley Sanitary District, and solid waste removal is provided by Marin Sanitary Service.

Impacts and Mitigation Measures

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 constriction or relocation of which could cause significant environmental effects?

The Project represents the modification of an existing municipal stormwater system. The purpose of the Project is to provide additional storm drainage capacity to decrease flooding and improve public safety.

The Project would require the temporary relocation or support of sewer laterals, water service lines, gas service lines, and AT&T underground conduit to protect from possible damage during

construction. Utility relocation would require coordination with utility providers. The completion of the storm drain Project would not result in increased demand for utilities. The Project would have a ***less than significant impact*** on utilities.

Mitigation Measures: None Required.

b, c. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years; result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The Project would not require water or wastewater services. Therefore, there would be ***no impact***.

Mitigation Measures: None Required.

d, e. 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; comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Operation of the storm drain would not generate solid waste. Construction activities would generate solid waste that would require off-site disposal, including concrete, asphalt, and other excavation spoils. To the extent feasible, excavation spoils would be reused onsite, and asphalt and concrete would be recycled. All solid waste generated during construction of the proposed Project would be collected by the contractor and disposed of in accordance with applicable local, state and federal regulations; construction-related impacts on solid waste services would be ***less than significant***.

Mitigation Measures: None required.

3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than Significant Impact
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?	Less than Significant Impact
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?	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?	No Impact

Environmental Setting

The Project would be partially located in the WUI environment. The Project site is mapped by MGSA (2023) as a moderate fire *hazard* severity zone, where *hazard* is based on the physical conditions that create a likelihood and expected fire behavior over a 30 to 50-year period without considering mitigation measures such as home hardening, recent wildfire, or fuel reduction efforts (Figure 10). The Project is further mapped by MGSA as a high to very high fire *risk* area, where *risk* is the potential damage a fire could do to the area under existing conditions, accounting for any modifications such as fuel reduction projects, defensible space, and ignition resistant building construction. (CalFire 2024). CalFire identifies Local Responsibility Areas with very high fire severity zones. The Project site is a Local Responsibility Area and has not been identified by CalFire as a very high fire hazard severity zone (2022).

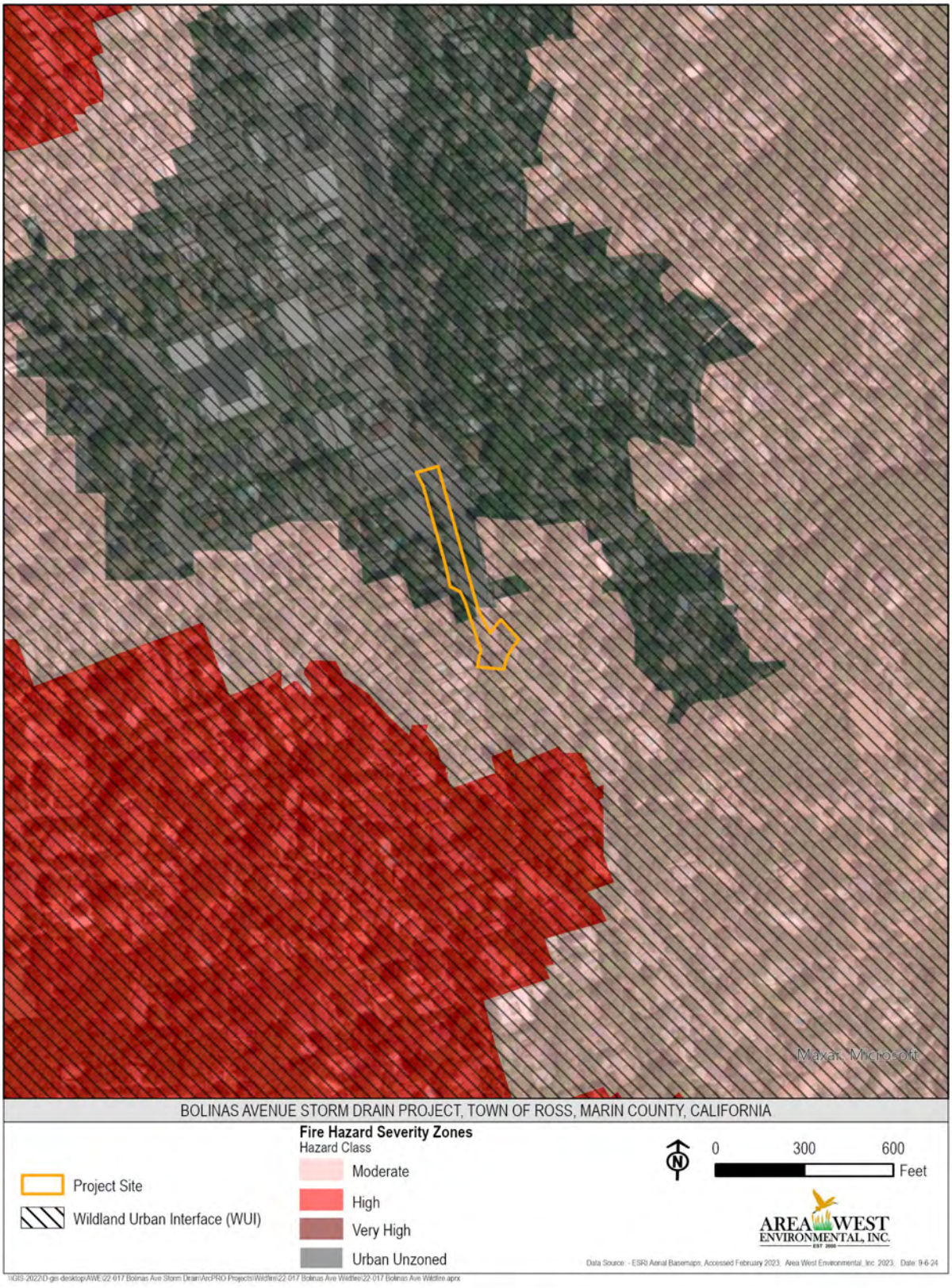


Figure 10. Fire Hazard Severity Level

Impacts and Mitigation Measures

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

Sir Francis Drake Boulevard is a designated primary emergency evacuation route for the region; Bolinas Avenue is a secondary evacuation route (MGSA 2023). The proposed Project would not impair the adopted emergency response plan. Temporary traffic rerouting and associated delays may occur during construction, which could result in reduced response times for emergency responders. The Traffic Control Plan requires that all emergency, transit agencies, and local residents be notified of the construction work and the contractor will provide ingress and egress to private residences at all times. There would be no road closure; traffic control for lane closure may be required, but a minimum of one lane would be kept open at all times. See Section 3.17, "Transportation" for more information about temporary traffic impacts. Impacts to emergency response plans would be ***less than significant***.

Mitigation Measures: None required.

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?

The proposed Project would not exacerbate wildfire risks. There are no site-specific factors (slope, prevailing winds) that would exacerbate wildfire risk. During construction, heavy equipment has the potential to start a fire on surrounding unsurfaced and vegetated areas. Implementation of **Mitigation Measure HAZ-2** (described in Section 3.11, "Hazards and Hazardous Materials") would reduce the potential for construction-related fires by reducing fire fuels where feasible and removing fire-sustaining litter. In addition, during construction, spark arrestors or turbo chargers (which eliminate sparks in exhaust), and fire extinguishers would be required for all heavy equipment. This impact is ***less than significant.***

Mitigation Measures: None required.

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?

The proposed Project does not require the installation or maintenance of associated infrastructure that could exacerbate wildfire risk. No relocation of overhead utility lines is anticipated. Therefore, there would be ***no impact***.

Mitigation Measures: None required.

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?

The proposed Project would not expose people or structures to significant risks due to post fire slope instability, runoff, or drainage changes. The Project would have little to no potential to create conditions that could expose people or structures to a significant risk of landslide or flooding; there would be ***no impact***.

Mitigation Measures: None required.

3.21 Mandatory Findings of Significance

Question	CEQA Determination
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?	Less than Significant Impact 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)?	Less than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less than Significant Impact

Environmental Setting

For the cumulative effects analysis, a description of other recent or proposed projects along San Anselmo Creek is provided below.

Winship Avenue Bridge Replacement Project: The Town is proposing to replace the Winship Avenue Bridge over San Anselmo Creek, located approximately 600 feet upstream of the proposed Project outfall location. The bridge project would replace the two-lane vehicle bridge over San Anselmo Creek to increase pedestrian and vehicle roadway travel width to current design standards and to improve the hydrologic capacity of the creek at this location. The existing bridge would be replaced with a single span, cast-in-place or precast concrete slab type bridge, and work would include creek contour grading and the placement of buried RSP and biotechnical bank stabilization to address flooding and scour concerns. The Town adopted a CEQA document for the bridge project in March 2020. FESA Section 7 consultation and NEPA approval for the project is pending. It is expected that the proposed Winship Avenue Bridge Replacement Project would not be constructed concurrently with the proposed storm drain Project.

San Anselmo Flood Risk Reduction Project: The Marin County Flood Control and Water Conservation District, along with the towns of San Anselmo and Fairfax, is proposing to implement the San Anselmo Flood Risk Reduction Project to reduce the flooding risk in the Ross Valley by implementing three flood mitigation projects along San Anselmo and Fairfax creeks. One project would replace the Winship Avenue Bridge over San Anselmo Creek (described above); another project would remove a building which constricts the San Anselmo Creek channel in downtown San Anselmo (approximately 0.6 mile upstream of the Project site), and the other project would construct a flood diversion and storage basin adjacent to Fairfax Creek, a tributary

to San Anselmo Creek (County of Marin Department of Public Works 2023). The Sunnyside Nursey Flood Diversion and Storage Basin was completed in 2023. During peak water flows from the creek, the basin stores flood waters until the water can release back to the creek naturally. The San Anselmo Flood Risk Reduction Project Final Environmental Impact Report (EIR) was completed in September 2018. An addendum to the project EIR was approved in the Spring 2023 and a second addendum was complete in late 2023. (Marin County Flood Control District 2023).

San Anselmo and Fairfax Bridge Projects: The Town of San Anselmo has three upcoming bridge replacement projects that cross San Anselmo Creek at Nokomis Avenue, Madrone Avenue, and Center Boulevard (near Sycamore Avenue), all located approximately 1 mile upstream of the Project site (Town of San Anselmo 2023). The Town of Fairfax is currently undertaking a multi-year effort to rehabilitate five bridges over San Anselmo and Fairfax Creeks at Marin Road, Spruce Road, Canyon Road, Creek Road, and Meadow Way in Fairfax (County of Marin Department of Public Works 2023; Town of Fairfax 2023); all these projects are upstream of the Project site.

Corte Madera Creek Flood Risk Management Project: The Marin County Flood Control and Water Conservation District and the U.S. Army Corps of Engineers, along with Ross, Kentfield, Greenbrae and Larkspur, are implementing the proposed Corte Madera Creek Flood Risk Management Project to enhance and improve Corte Madera Creek and reduce flooding (Marin County Flood Control District 2023). The Corte Madera Creek project would remove the wooden fish ladder (located at the upstream end of the mile-long concrete channel in Corte Madera Creek), widen the creek channel by removing portions of the concrete channel to create flood plains and riparian corridors, install flood walls adjacent to the creek banks, and stabilize creek slopes (Marin County Flood Control District 2023). The Environmental Impact Report was approved in August 2021 (Marin County Flood Control District 2023).

Impacts and Mitigation Measures

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?

Implementation of mitigation measures identified in the Biological Resources section (**Mitigation Measure BIO-1 through BIO-14**) would minimize or avoid impacts on sensitive biological resources during construction. Once construction is complete, the Project would not substantially change existing conditions for fish or wildlife species. Furthermore, mitigation measures identified in the Cultural Resources and Tribal Cultural Resources sections **(Mitigation Measures CUL-1 through CUL-3, and TCUL-1**) would minimize potential construction-related impacts on cultural and Tribal Cultural Resources. The Project would not significantly eliminate important examples of the major periods of California history or prehistory.

Given that the Project site is primarily developed, potential impacts to biological and cultural resources would only occur during construction, measures have been identified to reduce these temporary impacts, and once constructed, the area would continue to function as it currently does for sensitive resources, the overall potential of the proposed Project to degrade the environment is considered ***less than significant with mitigation incorporated***.

b. Does the project have impacts that are individually limited, but cumulatively considerable?

Section 15064(h)(1) of CEQA Guidelines states that the lead agency shall consider whether the cumulative impact is significant, and the incremental effects of the project are cumulatively considerable. The lead agency may determine that a project's incremental contribution would be less-than-cumulatively considerable when one or more of the following occur: 1) the contribution would be rendered less-than-cumulatively considerable through implementation of mitigation measures; 2) the project would comply with the requirements of a previously approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the project's cumulative effects; and/or 3) the project's incremental effects would be so small that the environmental conditions would be essentially the same regardless of whether the project is implemented.

The Project would not have adverse long-term impacts on the environment and serves to improve the Town's storm drain system. Potential adverse impacts associated with the proposed Project are short-term (construction-related), with the potential for cumulative impacts limited to overlapping constructions operations. The potential for an incremental contribution to cumulative conditions would be limited to impacts on specials-status species and/or sensitive habitats during construction.

The Marin County Flood Control and Water Conservation District Zone 9: Ross Valley flood reduction projects (San Anselmo Flood Risk Reduction, Lower Corte Madera Creek Improvement Study, and Corte Madera Creek Flood Risk Management) are designed to improve creek habitat in various ways including enhancing creek capacity, removing fill, recontouring creek banks to reduce erosion susceptibility, restoring a native assemblage of plants, and removing barriers to fish passage. These projects are not expected to adversely affect special-status species or their habitat. Because all these projects require compliance with the Clean Water Act, each will require consultation pursuant to Section 7 of the FESA, and cumulative impacts from these projects would be minimal due to the implementation of avoidance and minimization measures and BMPs resulting from consultation. Since these projects are designed to improve creek habitat in various ways including enhancing creek capacity, removing fill, recontouring creek banks to reduce erosion susceptibility, restoring a native assemblage of plants, and removing barriers to fish passage, they would not adversely affect sensitive species and habitats in the long term. Therefore, no significant cumulative impacts are anticipated as a result of the proposed Project when

considered in combination with these other projects. The Project would have ***less than significant*** cumulative impacts.

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

No substantial adverse effects to human beings would occur as a result of Project implementation and operations. The long-term result of project development would reduce harm to the community by relieving ongoing intersection flooding. Short-term effects on humans from project construction include temporary increases in noise and dust, and circulation disruption with temporary lane closures. These impacts are all limited in duration, and BMPs and mitigation measures have been identified to reduce short-term disturbance and inconveniences to neighboring residents and travelers. Potential adverse effects on human beings as a result of the proposed Project are considered ***less than significant***.

4.0 List of Preparers

The Public Review Draft IS/MND for the proposed Project was prepared by Area West Environmental, Inc. in cooperation with the Town of Ross. The following individuals contributed to this IS/MND.

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Appendix A – Mitigation Monitoring and Reporting Program

This mitigation monitoring and reporting program lists the identified mitigation measures, implementation schedule, and responsible entities for the Bolinas Avenue Storm Drain Improvement Project, Phase 2 (Project). The Town of Ross (Town) will use this mitigation monitoring and reporting program to ensure that identified mitigation measures, adopted as a condition of Project approval, are implemented appropriately. This monitoring program meets the requirements of CEQA Guidelines Section 14074(d), which mandates preparation of monitoring provisions for the implementation of mitigation assigned as part of project approval or adoption.

Mitigation Implementation and Monitoring

The Town will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the proposed Project. While the Town has ultimate responsibility for confirming implementation, others may be assigned the responsibility of actually implementing the mitigation. The Town will retain the primary responsibility for ensuring that the proposed Project meets the requirements of this mitigation plan and other permit conditions imposed by participating regulatory agencies.

The Town will designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during Project construction. The designated personnel will be responsible for submitting documentation and reports to the Town on a schedule consistent with the mitigation measures and in a manner necessary for demonstrating compliance with mitigation requirements. The designated personnel will have authority to require implementation of mitigation requirements and will be capable of halting or terminating Project construction activities found to be inconsistent with mitigation objectives or Project approval conditions.

The Town and its appointed contractor will be responsible for confirming that construction personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of Project construction. The following table lists each environmental resource area being affected, the party responsible for implementation of the mitigation measure, and the corresponding monitoring and reporting requirement.

Mitigation Enforcement

The Town will be responsible for enforcing mitigation measures. If alternative measures are identified that would be equally effective in mitigating the identified impacts, implementation of these alternative measures will not occur until agreed upon by the Town.

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
Air Quality	**<u>Mitigation Measure AIR-1: Implement BAAQMD Basic Construction Measures</u>.** To limit dust, criteria pollutants, and precursor emissions associated with construction, the construction contractor shall ensure the following BAAQMD-recommended Basic Construction Measures shall be implemented and included in all contract specifications for components constructed under the proposed project: ▪ All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and 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 roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. ▪ Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage	Construction Contractor	Prior to and during construction	Town of Ross: Project inspection

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	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. The contractor shall post a publicly visible sign with the telephone number and person to contact at the Town 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.			
Biological Resources	**<u>Measure BIO- 1: Conduct Preconstruction Special-Status Fish Surveys</u>** One week before the start of construction, a qualified fisheries biologist shall assess the Project site for the presence of special-status fish species based upon current water conditions. If special-status fish species are determined to have the potential for presence in the BSA or are observed within the BSA, avoidance and minimization measures BIO-5 and BIO-7 (described below) must be implemented. If the creek bed is entirely dry, no further measures shall be necessary. Results of the preconstruction survey shall be submitted to NMFS and CDFW.	Qualified Biologist	Prior to and during construction.	Town of Ross Qualified Biologist will prepare a Preconstruction Survey Results Memo

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
Biological Resources	**<u>Measure BIO-2: Limited Project Work Window, Duration, Disturbance, and Footprint</u>** To minimize impacts to the environment, the Project footprint shall be limited to the minimum amount needed to complete the Project. The duration and amount of construction-related disturbance in the creek channel shall also be limited to the extent practicable. Work in the San Anselmo Creek channel shall be restricted to the period from June 15 to October 15, when stream flow will be lowest and outside of the adult migration, spawning, incubation, larval phase, and smolt outmigration periods of steelhead. Construction shall be restricted to daylight hours to avoid the need for artificial lighting at night, which can attract and disturb fish and wildlife. Environmentally sensitive areas will be avoided during construction. Downed trees, stumps, boulders, and other refuge within aquatic habitat adjacent to the construction site shall remain undisturbed. Thermal refugia (pools) and suitable spawning sites adjacent to the construction site shall also remain undisturbed. Tree removal shall be limited to the minimum necessary to complete the project construction. Silt fencing or flagging will be used to demarcate environmentally sensitive avoidance areas, including high-visibility silt fencing or flagging used to protect trees.	Contractor and Qualified Biologist	Prior to and during construction	Town of Ross: Project inspection
Biological Resources	**<u>Measure BIO-3: Conduct Worker Environmental Awareness Training</u>**	Qualified Biologist	Prior to and during construction	Town of Ross Qualified Biologist will

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	All construction personnel shall attend a mandatory environmental education program delivered by a biologist prior to working on the proposed Project. The training shall include: a description of protected biological resources including identification of special-status species and habitats that may occur within the construction area; an explanation of the status of these species and habitats and their protection under the Endangered Species Act and other laws; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; descriptions of the boundaries within which construction may occur; and an explanation of the mitigation measures and BMPs to be followed during project implementation. If new construction personnel are added to the proposed project, they must receive mandatory training before starting work.			provide training materials and sign-in sheets
Biological Resources	**Mitigation Measure BIO-4: Implement Water Quality Best Management Practices (BMPs)** Before any ground-disturbing activities, the Town or authorized construction contractor shall prepare a Construction Erosion and Sediment Control Plan (ESCP) or equivalent, that includes erosion and sediment control measures and construction waste containment measures to protect waters of the state and U.S. during and after Project construction. The ESCP or equivalent shall include measures to minimize offsite stormwater runoff that might otherwise affect stream habitat and wildlife. The ESCP or equivalent	Construction Contractor	Prior to and during construction	Town of Ross Project inspection.

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	plan would include, at a minimum, the following BMPs, that would be adhered to during Project activities: ▪ No discharge of pollutants from vehicles and equipment cleaning are allowed into storm drains or watercourses. ▪ Construction equipment will be cleaned and inspected prior to use. Vehicle and equipment fueling and maintenance operations must be at least 50 feet away from watercourses. If refueling or servicing of equipment within 50 feet of a watercourse is necessary, secondary containment and absorbent pads will be used. ▪ Stationary equipment located within or adjacent to San Anselmo Creek will be positioned over secondary containment. ▪ Concrete wastes collected in washouts and water from curing operations will be collected and disposed of, and not allowed into watercourses or storm drains. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and 150 feet, at a minimum, from any aquatic habitat, culvert, or drainage feature. If storage of grindings and asphaltic-concrete waste within 150 feet of San Anselmo Creek is necessary, secondary containment and absorbent pads will be used; in addition, a protective barrier will be installed between the work area and the creek to prevent any spills and run-off from entering the creek.			

Final Mitigation Monitoring and Reporting Program				
Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	▪ Sediment control will be implemented. On-site stockpiles will be isolated with silt fence, filter fabric, and/or straw bales/fiber rolls. Erosion, sediment, and material stockpile BMPs will be employed between work areas and the adjacent waterway. No fill or runoff will be allowed to enter waterways at any time. ▪ Hazardous materials will not be stored within 200 feet of San Anselmo Creek.			
	Measure BIO-5: Develop and Implement a Fish Rescue Plan A fish rescue plan shall be developed and implemented by the aquatic biologist in coordination with NMFS and/or CDFW. Individual organisms shall be relocated the shortest distance possible to an adjacent downstream area with sufficient aquatic habitat. Within occupied habitat, capture, handling, exclusion, and relocation activities shall be completed no earlier than 48 hours before construction begins. Before and during dewatering of the construction site, juvenile steelhead and other fishes shall be captured by dip net or seine and then relocated. During fish relocation, all organisms shall be kept in water to the maximum extent possible and captured steelhead shall be kept in cool, shaded, well-aerated water and protected from disturbance and overcrowding until they are released. To avoid predation, two containers shall be used: one for young-of-the-year fish and one for second- or third-year fish.	Contractor	Prior to and during construction	Town of Ross and regulatory agencies will approve Fish Rescue Plan and Qualified Biologist will provide a 'Fish Rescue Memo' that details capture, release and observed mortality.

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	Captured fish shall be relocated out of the Project site into suitable habitat, preferably downstream, to avoid direct mortality and minimize the possible stranding of fish in isolated pools. The relocation site should be as close to the dewatered area as possible while meeting the survival needs (adequate water quality/quantity, cover, and forage) of both the relocated individuals and the fish already inhabiting the relocation site.			
	Measure BIO-6: Prepare and Implement Water Diversion and Dewatering Plan If flowing water is present in the channel, the flow shall be diverted around the work area by creating a temporary diversion to isolate a dry active construction work area. The diversion should not be installed until after fish rescue efforts are complete. The diversion will prevent fish from re-entering the work area until completion of all construction in the creek. The Contractor will prepare and implement a water diversion and dewatering plan. The plan will be approved by the Town. Dewatering may employ cofferdams and pipes or other water diversion techniques, as approved by the Town and regulatory agencies. All activities within the channel shall commence only after appropriate BMPs for dewatering and protecting water quality are in place. The temporary diversion shall be installed as close as possible to the construction area to minimize impacts to the flow of the stream and shall be constructed to ensure a tight seal with the	Contractor	Prior to and during construction	Town of Ross Project inspection for compliance with agency-approved Diversion and Dewatering Plan

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	creek bed to allow for a dry work area and minimize downstream turbidity. Fill material for cofferdams, if used, shall be fully confined with the use of plastic sheeting, sheetpiles, sandbags, or with other nonporous containment methods, such that sediment does not come in contact with stream flow or in direct contact with the natural streambed. All loose fill material for cofferdams shall be completely removed from the channel by October 15. Alternatively, clean gravel or clean crushed stone may be used without plastic sheeting, sandbags, etc. Water shall be directed downstream at an appropriate rate to maintain downstream flows and the outlet of all diversion pipes shall be positioned such that the discharge of water does not result in bank erosion or channel scour and maintains pre-project hydraulic conditions. The length of the pipe shall be the minimum necessary to safely convey the flow through the construction site and shall be placed on the streambed at natural grade. Flows shall be returned to the stream channel immediately downstream of the work area. Immediately upon completion of in-channel work, temporary fills, diversion cofferdams, and other in-channel structures shall be removed in a manner that minimizes disturbance to downstream flows and water quality. Creek diversion shall be limited to the minimum amount of time necessary to support construction activities.			

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
Biological Resources	**<u>Measure BIO-7: Biological Monitor and On-Site Monitoring</u>** The Town shall approve a qualified biologist(s) to provide services for the proposed Project. The biologist(s) shall be on-site during in-water activities, as well as for all designated activities required by the agencies during consultation. The biologist(s) shall keep copies of applicable permits in their possession when on site. Through the Town or their designee, the biologist(s) shall have the authority to stop proposed project activities to avoid take of listed species or if he or she determines that permit requirements are not being fully implemented. The biologist shall monitor construction activities to observe that measures to avoid and minimize impacts to water quality, vegetation communities, aquatic resources, special habitats, and special-status species and their habitats are implemented and shall document and report any issues. The biologist shall be responsible for identifying, monitoring, and maintaining non-disturbance buffers for nesting birds and/or roosting bats. During in-water activities, the biologist shall monitor all activities (e.g., installation and removal of cofferdams and pipes) for the purpose of avoiding and minimizing undue impacts to steelhead and other special-status aquatic species (fish and herpetofauna) and their habitat, and to monitor that the diversion and dewatering devices are functioning properly. An approved aquatic biologist shall also be present for the purpose of removing and relocating any listed species	Contractor	Prior to and during construction.	Town of Ross Qualified Biologist will submit monitoring logs.

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	that were not detected during the fish rescue or could not be removed and relocated prior to construction.			
Biological Resources	**<u>Measure BIO-8: Implement Creek Bed and Bank Protection Measures</u>** The creek bed and banks shall be protected to minimize impacts from temporary construction access and project construction. Native substrates removed during excavations and earthwork shall be stockpiled and returned to the creek bed and banks following project construction as part of the site restoration effort. The creek bed and banks shall be restored to natural and stable conditions following construction. Additional measures include the following: ▪ If riparian vegetation must be cut back, it shall be to the minimum height necessary (no lower than ground level) to promote rapid re-growth. ▪ Downed trees, stumps, boulders, and other basking sites and refuges within aquatic habitat surrounding the project site shall remain undisturbed and any minor, temporary disturbance restored to natural and stable conditions following construction. ▪ All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a day from the work area.	Contactor	Prior to and during construction	Town of Ross Project inspection

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	▪ To prevent harassment, injury, or mortality of sensitive species, no pets shall be permitted on the project site.			
Biological Resources	**Measure BIO-9: Return Temporarily Disturbed Areas to Pre-Project Conditions** Modified or disturbed portions of the stream channel, banks, and riparian areas shall be restored to natural and stable contours (elevations, profile, and gradient). A native grass seed mix shall be applied to areas disturbed by construction, creek access, and contouring, as well as to areas where native soils are used to fill voids in the RSP.	Contractor	Prior to and during construction	Town of Ross: Project inspection
Biological Resources	**Mitigation Measure BIO-10 Conduct Surveys for Special-Status Amphibians and Reptiles.** A focused pre-construction survey of the BSA shall be conducted a maximum of 48 hours prior to the start of construction activities for special-status species within the Project site. The survey shall include a thorough search of potential refugia for frogs and salamanders within the Project site. If California giant salamanders or western pond turtles are observed within the Project site, a biologist shall relocate the individuals the shortest distance possible to habitat unaffected by construction activities and increased Project monitoring may be warranted. If foothill yellow-legged frogs are found, they shall be protected from disturbance, allowed to move out of the Project site on their own, or relocated as per consultation with regulatory agencies.	Qualified Biologist	Prior to and during construction	Town of Ross Qualified Biologist will prepare a Preconstruction Survey Results Memo

Final Mitigation Monitoring and Reporting Program				
Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
Biological Resources	**<u>Mitigation Measure BIO-11: Nesting Bird Surveys and Protection.</u>** A nesting bird survey shall be performed by a qualified biologist within five days prior to the start of construction activities. If there is a lapse in Project-related work of more than seven days, additional surveys shall be conducted unless the work is occurring outside the nesting season (February 15 to August 31). Surveys for nesting birds within and around the Project site shall be conducted by the monitoring biologist regularly during construction. Active nests shall be flagged for avoidance. If active bird nests are found, an adequate setback shall be established around the nest location and construction activities restricted within this no-disturbance zone until the biologist has confirmed that any young birds have fledged and are able to function outside the nest location. Required setback distances for the no-disturbance zone shall be based on input received from the CDFW and may vary depending on species and sensitivity to disturbance. Avian nesting season shall be considered February 15 – August 31 for this Project. This timeframe covers the nesting season of most of the birds expected in the Project vicinity, raptors and non-raptors. Tree removal and vegetation trimming shall occur outside of the nesting season to the extent possible. If work must occur within 250 feet of active raptor or special-status species nests or within 50 feet of active passerine nests, a non-disturbance buffer shall be established at a distance	Qualified Biologist	Prior to and during construction	Town of Ross Qualified Biologist will prepare a Preconstruction Survey Results Memo

Final Mitigation Monitoring and Reporting Program				
Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. Active nests found shall be demarcated with flagging and a non-disturbance buffer zone shall be established. The non-disturbance buffer shall be visibly marked to prevent encroachment of construction activities. A qualified biologist may reduce the buffer size based on construction activities and observations of nesting behavior. Active nests shall be monitored by a qualified biologist to determine when the nest is no longer active, and non-disturbance buffers shall remain in place until the nest is no longer active (i.e., either when the young have fledged or the nest has failed). If nesting bird protections will impact construction windows established to protect other listed species (i.e., fish), then the appropriate agencies shall be consulted to establish alternate avoidance measures.			
Biological Resources	**Mitigation Measure BIO-12: Conduct a Preconstruction Roosting Bat Survey Prior to Tree Trimming or Removal.** A qualified biologist shall conduct a preconstruction survey of all trees proposed for removal or trimming within the Project for the presence of bat roosts. Surveys will entail direct inspection of trees, including around the base within piles of leaf litter, or nocturnal surveys (if not conducted during the hibernation period for bats). The survey shall occur no more than 2 weeks prior to the removal or trimming of trees within the Project site. If roosting habitat is present and occupied, then a qualified biologist shall determine the type	Qualified Biologist	Prior to construction	Town of Ross Qualified Biologist will prepare a Preconstruction Survey Results Memo

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	of roost. If roosting bats are found within the Project outside of the inactive season (November 1 to February 15) and the maternity season (April 1 to September 30), the bats may be excluded from the roost using methods developed by a qualified and experienced biologist in developing and implementing bat mitigation and exclusion plans in coordination with CDFW. If bats are found to be roosting within the Project site during the inactive season or the maternity season, the roost must be avoided. Otherwise, removal of bat roost trees would be conducted in two phases: the tree will be limbed on day 1 and the tree will be removed on day 2.			
Biological Resources	**Mitigation Measure BIO-13: Roosting Bat Protection.** If roosts are found within trees subject to removal, measures shall be taken to avoid, minimize, and/or mitigate impacts to the roost(s) following existing protocols for impacts to bat roosts, such as those outlined in California Bat Mitigation Techniques, Solutions, and Effectiveness (H.T. Harvey & Associates 2004). Active roosts within 100 feet of the Project site that can be avoided shall be flagged and a non-disturbance buffer zone shall be established. The non-disturbance buffer zone shall be visibly marked to prevent encroachment of construction activities. A biologist may reduce the buffer size based on construction activities and observations of roosting behavior. No work shall occur in the buffer until it is determined that the bats have left on their own, or until the end of the maternity season. Active roosts shall be monitored	Contractor and Qualified Biologist	Prior to and during construction	Town of Ross: Project inspection

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	by the biologist. If roosting bat protections will impact construction windows established to protect other listed species (i.e., fish), then the appropriate agencies shall be consulted to establish alternate avoidance measures.			
Cultural and Tribal Cultural Resources	**<u>Mitigation Measure CUL-1: Worker Environmental Awareness and Cultural Respect Training</u>** Prior to excavation or other subsurface disturbance activities, individuals conducting the work will be required to participate in Worker Environmental Awareness and Cultural Respect Training. Training could be provided in conjunction with WEAT for biological resources. The WEAT will include relevant information regarding sensitive cultural resources and Tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The WEAP will also describe appropriate avoidance and impact minimization measures for cultural resources and Tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential cultural resources or Tribal cultural resources are encountered. Workers will be advised to watch for cultural resource materials, including evidence of precontact cultural resources (freshwater shells, beads, bone tool remnants or an assortment of bones, soil changes including subsurface ash lens or soil darker "midden" in color than surrounding soil, lithic materials such as flakes, tools or grinding rocks, etc.), or historic-era cultural resources	Qualified Archaeologist	Before construction	Town of Ross

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	(railroad-related features such as refuse deposits, structural remains, rails or ties), foundations or walls, structures and remains with square nails, refuse deposits or bottle dumps, often associated with wells or old privies). The WEAP will emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values.			
Cultural and Tribal Cultural Resources	**Mitigation Measure CUL-2: Inadvertent Discovery of Cultural Resources During Ground-Disturbing Activities** If workers observe any evidence of precontact or historic-era cultural resources during subsurface construction activities (e.g., trenching, grading), all construction activities within a 50-foot radius of the identified potential resource shall cease until a qualified archaeologist evaluates the item for its significance and records the item on the appropriate State Department of Parks and Recreation forms. The archaeologist shall determine whether the item requires further study. If the qualified archaeologist determines the archaeological material to be Native American in nature, the consulting Tribe(s) shall be notified and shall determine if the find is a Tribal Cultural Resource (pursuant to PRC section 21074). If, after the qualified archaeologist conducts appropriate technical analyses, the item is determined to be significant under CEQA, the archaeologist and Tribal representative (if applicable) shall recommend feasible mitigation measures,	Contractor and Qualified Archaeologist	During construction (upon discovery)	Town of Ross Contractor and Qualified Archaeologist will report and document any discovered resources

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Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	which may include avoidance, preservation in place or other appropriate measure, as outlined in Public Resources Code section 21083.2. Upon the Town's approval of the recommended mitigation measures, the measures shall be implemented. The Town shall fund the costs of the qualified archaeologist and required analysis and shall include this mitigation measure in the construction contract to inform contractors of this requirement.			
Cultural Tribal Cultural Resources	**Mitigation Measure CUL-3: Procedures for Inadvertent Discovery of Human Remains.** In accordance with the California Health and Safety Code, Section 7050.5, and the Public Resources Code 5097.98, regarding the discovery of human remains, if human remains are discovered during construction, all work must immediately cease within 100 feet of the find, and the Marin County Coroner must be contacted. If the Coroner determines that the remains are those of a Native American, the Coroner shall contact the NAHC and subsequent procedures shall be followed, according to State Public Resources Code Sections 5097.9 to 5097.99, regarding notification of the Native American Most Likely Descendant. Following the coroner's and NAHC's findings, the Town and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed.	Contractor and Qualified Archaeologist	During construction (upon discovery)	Town of Ross, Contractor and Qualified Archaeologist will report and follow procedures for discovered human remains

Final Mitigation Monitoring and Reporting Program				
Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
Tribal Cultural Resources	**Mitigation Measure TCUL-1: Tribal Monitoring During Ground Disturbing Activities at San Anselmo Creek** To minimize the potential for significant impacts to Tribal Cultural Resources, a Tribal monitor shall be present during initial subsurface construction activities (e.g., trenching, grading) within 75 feet of the proposed outfall at San Anselmo Creek. Monitoring would occur during trenching, grading, and excavation for placement of riprap. If precontact and/or Tribal Cultural Resources are identified during the monitoring, procedures described in Mitigation Measures CUL-2 and CUL-3 will be followed. The Town shall fund the costs of the qualified Tribal monitor.	Tribal Monitor	During Construction	Town of Ross
Hazardous Materials	**Mitigation Measure HAZ-1: Conduct Soil Characterization.** Prior to construction, the Project will conduct soil characterization to determine potential for hazardous materials that may be present in the Project site. Analytical results from soil and materials samples will be compared to state and federal standards to evaluate reuse and/or disposal requirements for contaminated soils and materials. If lead or other contaminants are detected at concentrations levels that exceed the regulatory limits, the Project will prepare a Project-specific compliance plan (CCR Title 8, §1532) to address handling, reuse, and disposal of contaminant-impacted materials.	Contractor	Prior to Construction	Town of Ross, Contractor will submit soil characterization results to the Town.

Final Mitigation Monitoring and Reporting Program				
Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
Hazardous Materials	**<u>Mitigation Measure HAZ-2: Implement BMPs for Fire Prevention.</u>** The Town shall ensure that the construction contractor will clear dried vegetation or other materials that could serve as fuel for combustion from construction or building areas. To the extent feasible, the contractor shall keep these areas clear of combustible materials. Construction contractors shall ensure that any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws.	Contractor	Prior to and during construction	Town of Ross Project inspection
Transportation	**<u>Mitigation Measure TRAFFIC-1: Prepare and Implement a Traffic Control Plan.</u>** Prior to construction, the contractor will prepare a Traffic Control Plan. The plan will contain, at a minimum, the measures listed below, and will be submitted to the Town for approval. ▪ Prior to and during Project construction, the contractor shall use standard cones and barricades to protect the public from entering the construction work area. The contractor will also install advance warning signs to alert approaching motorists of the work zones consistent with the most recent edition of the California Manual of Traffic Control Devices. The contractor shall provide flaggers as needed to	Contractor	Prior to and during construction	Town of Ross will approve Traffic Control Plan.

Final Mitigation Monitoring and Reporting Program				
Resource Area	**Mitigation Measure**	**Mitigation - Responsible for Action**	**Implementation Timing**	**Mitigation - Responsible for Compliance**
	temporarily hold traffic for staging equipment or construction. ▪ A minimum of one lane on Sir Francis Drake Boulevard will be kept open at all times. ▪ The contractor will maintain access or provide detours for pedestrians and cyclists. ▪ Written notice to each homeowner along Sir Francis Drake Boulevard and business owners adjacent to the Bolinas Avenue and Sir Francis Drake Boulevard intersection shall be provided at least 2 weeks prior to the start of the construction phase. ▪ The contractor will coordinate with the Marin Transit Authority and Golden Gate Transit regarding temporary closure and/or relocation of the existing bus stop. ▪ The contractor will provide posted notice at the bus stop of bus stop disruption and/or relocation per the direction of the Marin Transit Authority and Golden Gate Transit. ▪ The contractor shall provide affected residents with ingress and egress (pedestrian and vehicular) during construction. ▪ Prior to Project construction, the contractor will provide a copy of the approved Traffic Control Plan to local emergency services providers.			

Attachment B. Representative Site Photographs

Photo 1. Northern boundary of Project site along Sir Francis Drake Boulevard. Facing south toward bus stop.

Photo 2. Storm drain inlet on Sir Francis Drake Boulevard within Project site. Taken facing south.

Photo 3. Sir Francis Drake Boulevard Bridge. Facing north.

Photo 4. View of San Anselmo Creek from Sir Francis Drake Boulevard Bridge. Facing west.

Photo 5. San Anselmo Creek upstream of bridge on eastern bank, at Biological Survey Area boundary. Facing west.

Photo 6. San Anselmo Creek armoring (retaining wall and concrete).

Appendix C. Biological Resources Information

Appendix C-1. Observed Species

Table C-1a. List Observed Plant Species within BSA

Scientific Name[1]	Common Name	Family	Nativity
Acer macrophyllum	Big-leaf maple	Sapindaceae	Native
Aesculus californica	California buckeye	Sapindaceae	Native
Ailanthus altissima	Tree of heaven	Simaroubaceae	Naturalized
Alnus rhombifolia	White alder	Betulaceae	Native
Avena fatua	Wild oat	Poaceae	Naturalized
Bromus diandrus	Ripgut grass	Poaceae	Naturalized
Callistemon citrinus	Crimson bottlebrush	Myrtaceae	Naturalized
Cardamine californica	Milk maids	Brassicaceae	Native
Carduus pycnocephalus subsp. pycnocephalus	Italian thistle	Asteraceae	Naturalized
Carex sp.	Sedge species	Cyperaceae	Native
Cerastium glomeratum	Sticky mouse-ear chickweed	Caryophllyaceae	Naturalized
Claytonia perfoliata	Miner's-lettuce	Montiaceae	Native
Crataegus monogyna	Common hawthorn	Rosaceae	Naturalized
Cynosurus echinatus	Hedgehog dogtail grass	Poaceae	Naturalized
Cyperus eragrostis	Tall cyperus	Cyperaceae	Native
Dietes iridioides	African iris	Iridaceae	Naturalized
Equisetum arvense	Common horsetail	Equisetaceae	Native
Eriobotrya japonica	Loquat	Rosaceae	Garden, or urban weed
Erodium brachycarpum	White stemmed filaree	Geraniaceae	Naturalized
Erythranthe cardinalis	Cardinal monkey flower	Phrymaceae	Native
Euphorbia peplus	Petty spurge	Euphorbiaceae	Naturalized
Festuca perennis	Perennial rye grass	Poaceae	Naturalized
Ficus carica	Common fig	Moraceae	Naturalized
Galium aparine	Sticky-willy, goose grass	Rubiaceae	Native
Galium murale	Tiny bedstraw	Rubiaceae	Naturalized
Genista monspessulana	French broom	Fabaceae	Naturalized
Geranium molle	Crane’s bill geranium	Geraniaceae	Naturalized
Geranium purpureum	Little robin	Geraniaceae	Naturalized
Hedera helix	English ivy	Araliaceae	Naturalized
Helminthotheca echioides	Bristly ox-tongue	Asteraceae	Naturalized
Hypochaeris glabra	Smooth cat's-ear	Asteraceae	Naturalized
Juncus xiphioides	Iris-leaved rush	Juncaceae	Native
Lemna minor	Smaller duckweed	Araceae	Native
Ligustrum lucidum	Glossy privet	Oleaceae	Naturalized
Leontodon saxatilis	Lesser hawkbit	Asteraceae	Naturalized
Medicago polymorpha	California burclover	Fabaceae	Naturalized
Melilotus sp.	Sweet clover species	Fabaceae	Naturalized
Mentha arvensis	Wild mint	Lamiaceae	Naturalized
Nasturtium officinale	Watercress	Brassicaceae	Native
Nerium oleander	Common oleander	Apocynaceae	Naturalized
Paspalum dilatatum	Dallis grass	Poaceae	Naturalized
Plantago lanceolata	English plantain	Plantaginaceae	Naturalized
Quercus lobata	Valley oak	Fagaceae	Native
Quercus wislizeni var. wislizeni	Interior live oak	Fagaceae	Native
Robinia pseudoacacia	Black locust	Fabaceae	Naturalized
Rubus armeniacus	Himalayan blackberry	Rosaceae	Naturalized
Salix lasiolepis	Arroyo willow	Salicaceae	Native
Sequoia sempervirens	Coast redwood	Cupressaceae	Native

Sonchus oleraceus	Common sow-thistle	Asteraceae	Naturalized
Spergularia rubra	Red sand-spurrey	Caryophllyaceae	Naturalized
Sporobolus airoides	Alkali-sacaton	Poaceae	Native
Stellaria media	Common chickweed	Caryophllyaceae	Naturalized
Taraxacum officinale	Common dandelion	Asteraceae	Naturalized
Torilis arvensis	Tall sock-destroyer	Apiaceae	Naturalized
Ulmus americana	American elm	Ulmaceae	Waif
Umbellularia californica	California-laurel	Lauraceae	Native
Urtica dioica ssp. Holosericea	Stinging nettle	Urticaceae	Native

1 Jepson Flora Project (eds.) 2023, Jepson eFlora, https://ucjeps.berkeley.edu/eflora/, accessed on July 7, 2023.

Table C-1b. List of Observed Wildlife Species within BSA

Common Name	**Scientific Name**
Song sparrow	*Melospiza melodia*
Anna's hummingbird	*Calypte anna*
American crow	*Corvus brachyrhynchos*
Western gray squirrel	*Sciurus griseus*
Black-tailed deer (scat and tracks)	*Odocoileus hemionus*
Raccoon (tracks)	*Procyon lotor*
Dark-eyed junco	*Junco hyemalis*
Red shouldered hawk	*Buteo lineatus*
Western tiger swallowtail	*Papilio rutulus*
Salmonid sp. (juvenile)	Species in the Salmonidae family
Cypriniod sp. (juvenile)	Species in the Cyprinidae family

Appendix C-2. Potential to Occur Tables

Table C-2a. Special-status Plant Species with the Potential to Occur in the Vicinity of the Biological Study Area

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Franciscan onion *Allium peninsulare var. franciscanum*	--/--/1B.2	(April)May-Jun	Known occurrences in Mendocino, Napa, San Mateo, Santa Clara and Sonoma counties. Occurs in cismontane woodland, valley and foothill grassland, often on clay, serpentinite and volcanic soils. Elevational range: 170-1,000 feet.	Absent	**None.** There is no suitable habitat in the BSA for this species. The BSA is also outside of the elevation range for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Sonoma alopecurus *Alopecurus aequalis var. sonomensis*	FE/--/1B.1	May-Jul	Limited to Marin and Sonoma counties. Occurs in wet areas, marshes and swamps (freshwater), riparian scrub banks, with other wetland species. Elevational range: 15-1,200 feet.	Absent	**None**. There is no wetland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius within the BSA.
Napa false indigo *Amorpha californica var. napensis*	--/--/1B.2	Apr-Jul	Lake, Marin, Sonoma, Monterey, and Napa counties. Openings in broadleafed upland forest, chaparral, and cismontane woodland. Elevational range: 165-6,560 feet.	Absent	**None**. There is no suitable habitat in the BSA. Additionally, the BSA is outside of the species' elevation range. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are thirteen CNDDB occurrences within a 5-mile radius within the BSA, all at higher elevations.
Bent-flowered fiddleneck *Amsinckia lunaris*	--/--/1B.2	Mar-Jun	Known occurrences in Alameda, Contra Costa, Colusa, Lake, Marin, Napa, Santa Clara, Santa Cruz, San Francisco, San Mateo, Sonoma, Sutter, and Yolo counties. Coastal bluff scrub, cismontane woodland, and valley and foothill grasslands. Elevational range: 10-1,640 feet.	Absent	**None.** There is no coastal bluff scrub, woodland or grassland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are three CNDDB occurrences within a 5-mile radius of the BSA.
Franciscan manzanita *Arctostaphylos franciscana*	FE/--/1B.1	Feb-Apr	Presumed extinct until a single occurrence was identified in 2009 in San Francisco County. Coastal scrub (serpentinite). Elevational range: 195-985 feet.	Absent	**None**. There is no serpentine habitat in the BSA. Additionally, the BSA is outside of the species' elevation range. No *Arctostaphylos* species were observed during the May and June 2023 botanical surveys. There are no CNDDB occurrences within a 5-mile radius within the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Mt. Tamalpais manzanita *Arctostaphylos montana ssp. montana*	--/--/1B.3	Feb-Apr	Known from fewer than twenty occurrences in the Mt. Tamalpais area in Marin County. Found in serpentine, rocky soils in chaparral and valley and foothill grasslands. Elevational range: 525-2,495 feet.	Absent	**None.** There is no serpentine habitat in the BSA. Additionally, the BSA is outside of the species' elevation range. T No *Arctostaphylos* species were observed during the May and June 2023 botanical surveys. There are four CNDDB occurrences within a 5-mile radius of the BSA.
Presidio manzanita *Arctostaphylos montana ssp. ravenii*	FE/SE/1B.1	Feb-Mar	Known from only one extant native occurrence at the Presidio in San Francisco county; plants there belong to a single clone. Five of six historical occurrences extirpated. Serpentinite outcrop in chaparral, coastal prairie, and coastal scrub. Elevational range: 150-705 feet.	Absent	**None.** There is no serpentine habitat in the BSA. Additionally, the BSA is outside of the species' elevation range. No *Arctostaphylos* species were observed during the May and June 2023 botanical surveys. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Marin manzanita *Arctostaphylos virgata*	--/--/1B.2	Jan-Mar	Occurs in Marin County. Found in sandstone or granitic soils in broadleaf upland forest, closed-cone coniferous forest, chaparral, north coast coniferous forest. Elevational range: 195-2,295	Absent	**None.** There is no suitable habitat in the BSA. Additionally, the BSA is outside of this species' elevation range. No *Arctostaphylos* species were observed during the May and June 2023 botanical surveys. There are two CNDDB occurrences within a 5-mile radius of the BSA.
Marsh sandwort *Arenaria paludicola*	FE/SE/1B.1	May-Aug	Known from only two natural occurrences in Black Lake Canyon and Oso Flaco Lake. Historical occurrences include Los Angeles, San Bernardino, Santa Cruz, San Francisco, and San Luis Obispo counties. Sandy openings in freshwater or brackish marshes and swamps. Elevational range: 10-560 feet.	Absent	**None.** There is no wetland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA. **.**
Coastal marsh milk-vetch *Astragalus pycnostachyus var. pycnostachyus*	--/--/1B.2	Apr-Oct	Known occurrences in Humboldt, Marin, and San Mateo counties. Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides). Elevational range: 0-180 feet.	Absent	**None.** There is no coastal or marsh habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Alkali milk-vetch *Astragalus tener* var. *tener*	--/--/1B.2	Mar-Jun	Central western California. Mainly alkaline with adobe clay, valley and foothill grassland, vernal pools, and playas. Elevational range: 5-195 feet.	Absent	**None.** There is no adobe clay, grassland, vernal pool, or playa habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Thurber's reed grass *Calamagrostis crassiglumis*	--/--/2B.1	May-Aug	Known occurrences in Del Norte, Humboldt, Marin, Mendocino, and Sonoma counties. Found in coastal scrub and freshwater marsh habitats. Elevational range: 35-195 feet.	Absent	**None.** There is no coastal scrub or freshwater marsh in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one CNDDB occurrence within a 5-mile radius of the BSA, but it is from 1910.
Tiburon mariposa-lily *Calochortus tiburonensis*	FT/ST/1B.1	May-Jun	Known from only one occurrence at Ring Mountain Preserve on the Tiburon Peninsula in Marin County. Found in alley and foothill grassland (serpentinite). Elevational range: 165-490 feet.	Absent	**None.** There is no serpentine habitat in the BSA for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one CNDDB occurrence within a 5-mile radius of the BSA.
Coastal bluff morning-glory *Calystegia purpurata ssp. saxicola*	--/--/1B.2	(Mar)Apr-Sep	Known occurrences in Lake, Mendocino, Marin, Sonoma, and Contra Costa counties. Found in coastal dunes, coastal scrub, coastal bluff scrub, and north coast coniferous forest. Elevational range: 0-345 feet.	Absent	**None.** There is no suitable coastal or coniferous forest habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Seaside bittercress *Cardamine angulata*	--/--/2B.1	Apr-Jul	Known from 5 historical occurrences in Marin, Humboldt, Siskiyou, and Del Norte counties. Found in wet areas, streambanks in lower montane coniferous forest, and north coast coniferous forest. Elevational range: 50-3,000 feet.	Absent	**None.** There is no suitable coastal or coniferous forest habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Bristly sedge *Carex comosa*	--/--/2B.1	May-Sept	Known occurrences in Contra Costa, Fresno, Lake, Mendocino, Sacramento, San Bernardino, Santa Cruz, San Francisco, Shasta, San Joaquin, San Mateo, and Sonoma counties. Wet places such as lake margins in coastal prairie, marshes and swamps, and valley and foothill grassland habitats. Elevational range: 0-2,050 feet.	Absent	**None.** There is no suitable wetland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Lyngbye's sedge *Carex lyngbyei*	--/--/2B.2	Apr-Aug	Occurs in Marin, Humboldt, Del Norte, and Mendocino counties in marshes and swamps (brackish or freshwater). Elevational range: 0-35 feet.	Absent	**None.** There is no suitable wetland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Northern meadow sedge *Carex practicola*	--/--/2B.2	May-Jul	Occurs in Del Norte, Humboldt, Madera, Mono, Placer, Siskiyou, and Tuolumne counties in meadows and seeps (mesic). Elevational range: 0-10,500 feet.	Absent	**None.** There is no suitable wetland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Tiburon paintbrush *Castilleja affinis var. neglecta*	FE/ST/1B.2	Apr-Jun	Known from fewer than 10 occurrences in Marin, Napa, and Santa Clara counties. Found in serpentine valley and foothill grassland habitats. Elevational range: 195-1,310 feet.	Absent	**None.** There is no suitable serpentine grassland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one CNDDB occurrence within a 5-mile radius of the BSA.
Nicasio ceanothus *Ceanothus decornutus*	--/--/1B.2	Mar-May	Occurs only in Marin County in maritime, rocky, serpentine chaparral habitat, sometimes on clay soils. Elevational range: 770-950 feet.	Absent	**None.** There is no suitable serpentine habitat in the BSA. Additionally, the BSA is outside of this species' elevation range. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Mason's ceanothus *Ceanothus masonii*	--/SR/1B.2	Mar-Apr	Known from approximately five occurrences in Marin County. Occurs in chaparral (openings, rocky, serpentine). Elevational range: 755-1,640 feet.	Absent	**None.** There is no suitable serpentine habitat in the BSA. Additionally, the BSA is outside of this species' elevational and geographical range. No *Ceanothus* species were observed during the May and June 2023 botanical surveys. There is one CNDDB occurrence within a 5-mile radius of the BSA.
Point Reyes salty bird's-beak *Chloropyron maritimum ssp. palustre*	--/--/1B.2	Jun-Oct	Known occurrences in Alameda, Humboldt, Marin, Santa Clara, San Francisco, San Luis Obispo, San Mateo, and Sonoma counties. Coastal salt marshes and swamps. Usually found with *Salicornia, Distichlis, Jaumea, Spartina*, etc. Elevational range: 0-35 feet.	Absent	**None.** There is no coastal salt marsh habitat in the BSA. This species was not observed during the June 2023 botanical survey conducted during this species identification period. There are four CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco Bay spineflower *Chorizanthe cuspidata var. cuspidata*	--/--/1B.2	Apr-Jul(Aug)	Known occurrences in Alameda, Marin, San Francisco, San Mateo, and Sonoma counties. Found in sandy soils on terraces and slopes in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub habitats. Elevational range: 10-705 feet.	Absent	**None.** There is no coastal habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one historical CNDDB occurrence within a 5-mile radius of the BSA, but it occurred in 1873.
Franciscan thistle *Cirsium andrewsii*	--/--/1B.2	Mar-Jul	Known occurrences in Contra Costa, Marin, San Francisco, San Mateo, and Sonoma counties. Found in mesic, sometime serpentinite, areas in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub habitats. Elevational range: 0-490 feet.	Absent	**None.** There is no coastal, serpentinite or upland forest habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Mt. Tamalpais thistle *Cirsium hydrophilum var. vaseyi*	--/--/1B.2	May-Aug	Known from 12 occurrences in Marin County all near Mt. Tamalpais. Found in serpentinite seeps, broadleaved upland forest, chaparral, and meadows and seeps. Elevational range: 785-2,035 feet.	Absent	**None.** There is no suitable serpentine habitat in the BSA. Additionally, the BSA is outside of this species' elevation range. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are ten CNDDB occurrences within a 5-mile radius of the BSA (at higher elevations).

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Presidio clarkia *Clarkia franciscana*	FE/SE/1B.1	May-Jul	Known from fewer than five occurrences in Alameda and San Francisco counties. Found in serpentine outcrops in coastal scrub and valley and foothill grassland habitats. Elevational range: 80-1,100 feet.	Absent	**None.** There is no serpentine outcrop habitat in the BSA. The BSA is outside of the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Round-headed collinsia *Collinsia corymbosa*	--/--/1B.2	Apr-June	Scattered distribution known from 7 occurrences in Marin, Sonoma, Humboldt, and Mendocino counties in coastal dunes. Elevational range: 0-65 feet.	Absent	**None.** There are no coastal dunes in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco collinsia *Collinsia multicolor*	--/--/1B.2	(Feb)Mar-May	Know occurrences in Marin, San Francisco, Monterey, Santa Clara, Santa Cruz, and San Mateo counties. Sometimes serpentinite soils in closed-cone coniferous forest and coastal scrub. Elevational range: 100-900 feet.	Absent	**None.** There is no serpentinite, closed cone coniferous forest or coastal scrub habitat in the BSA. Additionally, the BSA is outside the elevation range of this species. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Silverskin lichen *Dermatocarpon meiophyllizum*	--/--/2B.3	Year-round	Occurs in Alpine, Inyo, Marin, Mariposa, Mono, Santa Barbara, Siskiyou, Trinity, and Tuolumne counties. Found in coastal prairie, lower montane coniferous forest, North Coast coniferous forest, subalpine coniferous forest, upper montane coniferous forest, usually aquatic to semi-aquatic, within splash zone of lakes or streams. Preferred habitat is undisturbed, exposed streams with large rocks or bedrock at high elevations, but it is also found in cold, deep canyons at lower elevations. Elevational range: 970-11,465 feet.	Absent	**None.** There is no suitable cold, deep canyon habitat in the BSA. Additionally, the BSA is outside the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys. There are two CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Western leatherwood *Dirca occidentalis*	--/--/1B.2	Jan-Mar(Apr)	Known occurrences in Alameda, Contra Costa, Marin, Santa Clara, San Mateo, and Sonoma counties. Found in mesic sites on brushy slopes, mostly in mixed evergreen and foothill habitats. This includes broadleaved upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, North Coast coniferous forest, riparian forest, and riparian woodland. Elevational range: 80-1,395 feet.	Absent	**None.** There is no suitable habitat for this species in the BSA, which is outside of the elevation range of this species. There are two CNDDB occurrences within a 5-mile radius of the BSA.
Koch's cord moss *Entosthodon kochii*	--/--/1B.3	Year-round	Known from four occurrences in Mariposa, Mendocino, Marin, and San Luis Obispo counties. Found growing on cismontane woodland soils. Elevational range: 590-3,280 feet.	Absent	**None.** The BSA is outside the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Tiburon buckwheat *Eriogonum luteolum var. caninum*	--/--/1B.2	May-Sep	Known occurrences in Alameda and Marin counties. Found in sandy to gravelly sites on serpentine soils in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland habitats. Elevational range: 0-2,295 feet.	Absent	**None.** There is no suitable serpentine habitat for this species in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are 14 CNDDB occurrences within a 5-mile radius of the BSA.
Minute pocket moss *Fissidens pauperculus*	--/--/1B.2	N/A	Known occurrences in Alameda, Butt, Del Norte, Humboldt, Mendocino, Marin, Santa Cruz, San Mateo, Sonoma, and Yuba counties. Found in damp coastal soil in dry streambeds and on streambanks in North Coast coniferous forest habitats. Elevational range: 35-3,360 feet.	Absent	**None.** There is no North Coast coniferous forest habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys. There is one CNDDB occurrence within a 5-mile radius of the BSA from 1949.
Marin checker lily *Fritillaria lanceolata var. tristulis*	--/--/1B.1	Feb-May	Known occurrences in Marin and San Mateo counties on coastal bluff scrub, coastal prairie, coastal scrub. Elevational range: 50-490 feet.	Absent	**None.** There is no coastal habitat in the BSA. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There is one CNDDB occurrence within a 5-mile radius of the BSA from 1951.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Fragrant fritillary *Fritillaria liliacea*	--/--/1B.2	Feb-Apr	Known occurrences in Alameda, Contra Costa, Monterey, Marin, San Benito, Santa Clara, San Francisco, San Mateo, Solano, and Sonoma counties. California endemic. Often in serpentinite soil, various soils reported though usually on clay, in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. Elevational range: 10-1,345 feet.	Absent	**None.** There is no serpentine, cismontane woodland, grassland or coastal habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Blue coast gilia *Gilia capitata ssp. chamissonis*	--/--/1B.2	Apr-Jul	Known occurrences in Marin, San Francisco, and Sonoma counties. Coastal dunes and scrub. Elevational range: 5-655 feet.	Absent	**None.** There is no coastal dune or scrub habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Woolly-headed gilia *Gilia capitata ssp. tomentosa*	--/--/1B.1	May-Jul	Known occurrences in Marin and Sonoma counties on rocky outcrops, sometimes on serpentinite soils, in coastal bluff scrub, riparian woodland, and valley and foothill grassland. Elevational range: 35-720 feet/	Absent	**None.** There are no rocky outcrops in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Dark-eyed gilia *Gilia millefoliata*	--/--/1B.2	Apr-Jul	Known occurrences in Alameda, Contra Costa, Del Norte, Humboldt, Mendocino, Marin, San Francisco, San Mateo, and Sonoma counties. Coastal dunes. Elevational range: 5-100 feet.	Absent	**None.** There is no coastal dune habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one CNDDB occurrence within a 5-mile radius of the BSA.
Diablo helianthella *Helianthella castanea*	--/--/1B.2	Mar-Jun	Known occurrences in Alameda, Contra Costa, and San Mateo Counties. Extirpated from San Francisco and Marin counties. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. In broadleaf upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevational range: 195-4,265 feet.	Absent	**None**. There is riparian woodland habitat in the BSA. However, the BSA is outside of the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one historical CNDDB occurrence within a 5-mile radius of the BSA, but it occurred in 1938.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	--/--/1B.2	Apr-Nov	Known occurrences in Lake, Mendocino, Marin, San Francisco, San Mateo, and Sonoma counties. Found in grassy valleys and hills, often in fallow fields; sometimes along roadsides. In valley and foothill grassland habitats. Elevational range: 65-1,835 feet.	Absent	**None.** There is roadside habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are four CNDDB occurrences within a 5-mile radius of the BSA.
Marin dwarf-flax *Hesperolinon congestum*	FT/ ST/1B.1	Apr-Jul	Known occurrences in Marin, San Francisco, and San Mateo counties. Found in serpentinite soils within chaparral, and valley and foothill grassland. Elevational range: 15-1,215 feet.	Absent	**None**. There is no serpentine habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are three CNDDB occurrences within a 5-mile radius of the BSA.
Water star-grass *Heteranthera dubia*	--/--/2B.2	Jul-Oct	Known occurrences in Butte, Colusa, Marin, Modoc, San Francisco, San Mateo, Shasta, and Sutter counties. Found in alkaline still or slow-moving marshes. Elevational range: 100-4,905 feet.	Absent	**None**. There is no alkaline wetland habitat in the BSA. Additionally, the BSA is outside of the elevation range of this species. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Santa Cruz tarplant *Holocarpha macradenia*	FT/SE/1B.1	Jun-Oct	This species has been extirpated from Alameda and Marin counties. Reintroduced in Contra Costa County. Remaining native populations exist in Monterey and Santa Cruz counties. Often in clay, sandy soils in coastal prairie, coastal scrub, and valley and foothill grassland. Elevational range: 35-720 feet.	Absent	**None.** This species is considered to be extirpated in Marin County. There is no suitable habitat in the BSA. This species was not observed during the June 2023 botanical survey conducted within the species' identifiable period. There are two historical CNDDB occurrences within a 5-mile radius from 1883.
Kellogg's horkelia *Horkelia cuneata var. sericea*	--/--/1B.1	Apr-Sep	Known occurrences in Alameda, Monterey, Marin, Santa Barbara, Santa Cruz, San Francisco, San Luis Obispo, and San Mateo counties. Found in openings, in maritime chaparral, closed-cone coniferous forest, coastal dunes, and coastal scrub habitats. Sometimes in sandy or gravelly soils. Elevational range: 35-655 feet.	Absent	**None.** There is no maritime chaparral, closed cone coniferous forest or coastal habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Point Reyes horkelia *Horkelia marinensis*	--/--/1B.2	May-Sep	Known occurrences in Mendocino, Marin, Santa Cruz, and Sonoma counties. Found in sandy soils in coastal dunes, coastal prairie, and coastal scrub. Elevational range: 15-2,475 feet.	Absent	**None.** There is no coastal habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Thin-lobed horkelia *Horkelia tenuiloba*	--/--/1B.2	May-Jul(Aug)	Known occurrences in Mendocino, Marin, and Sonoma counties in mesic openings and sandy soil in broadleaved upland forest, chaparral, and valley and foothill grassland. Elevational range: 165-1,640 feet.	Absent	**None.** The BSA is outside the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are five CNDDB occurrences within a 5-mile radius of the BSA which occur at higher elevations.
Island tube lichen *Hypogymnia schizidiata*	--/--/1B.3	Year-round	Known occurrences in Mendocino, Marin, Santa Barbara, and San Mateo counties. Also found on Santa Cruz Island and Santa Rosa Island. Found on bark and wood of hardwoods and conifers in closed-cone coniferous forest and chaparral. Elevational range: 1180-1,330 feet.	Absent	**None.** The BSA is outside the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Small groundcone *Kopsiopsis hookeri*	--/--/2B.3	Apr-Aug	Known from 15 occurrences in Del Norte, Humboldt, Mendocino, Marin, Sonoma, and Trinity counties. North Coast coniferous forest. Open woods, shrubby places, generally on *Gaultheria shallon*. Elevational range: 295-2,905 feet.	Absent	**None.** There is no *Gaultheria shallon* in the BSA. The BSA is outside the elevation range of this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are four CNDDB occurrences within a 5-mile radius of the BSA.
Beach layia *Layia carnosa*	FT/SE/1B.1	Mar-Jul	Known occurrences in Humboldt, Monterey, Marin, Santa Barbara, and San Francisco counties. Sandy soils in coastal dunes and coastal scrub habitats. Elevational range: 0-195 feet.	Absent	**None.** There is no coastal habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Rose leptosiphon *Leptosiphon rosaceus*	--/--/1B.1	Apr-Jul	Known occurrences in Marin, San Francisco, San Mateo, and Sonoma counties. Coastal bluff scrub. Elevational range: 0-330 feet.	Absent	**None.** There is no coastal habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco lessingia *Lessingia germanorum*	FE/SE/1B.1	(Jun)Jul-Nov	Known from only four occurrences at the Presidio (San Francisco County), and one on San Bruno Mountain (San Mateo county). Found in coastal scrub, especially on remnant dunes. Elevational range: 80-360 feet.	Absent	**None.** There is no coastal habitat in the BSA. This species was not observed during the June 2023 botanical survey conducted within the species' identifiable period. The BSA is outside of this species elevation range. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Tamalpais lessingia *Lessingia micradenia var. micradenia*	--/--/1B.2	(Jun)Jul-Oct	Known from only four occurrences in the Mt. Tamalpais area of Marin County. Usually serpentinite soils, often roadsides in valley and foothill grassland and chaparral. Elevational range: 330-1,640 feet.	Absent	**None.** There is no serpentine soil in the BSA. Additionally, the BSA is outside of this species elevation range. This species was not observed during the June 2023 botanical survey conducted within the species' identifiable period. There are six CNDDB occurrences within a 5-mile radius of the BSA.
Marsh microseris *Microseris paludosa*	--/--/1B.2	Apr-Jun(Jul)	Known occurrences in Mendocino, Monterey, Marin, San Benito, Santa Cruz, San Luis Obispo, and Sonoma counties. Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevational range: 15-1,165 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are two CNDDB occurrences within a 5-mile radius of the BSA.
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	--/--/1B.1	Apr-Jul	Known occurrences in Colusa, Glenn, Humboldt, Lake, Lassen, Marin, Mendocino, Napa, Solano, Sonoma, Sutter, Tehama, and Yolo counties. Found in cismontane woodland, meadows and seeps, vernal pools, valley and foothill grasslands, and lower montane coniferous forest. Elevational range: 15-5,710 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Marin County navarretia *Navarretia rosulata*	--/--/1B.2	May-Jul	Known from 13 occurrences in Marin and Napa counties. Serpentinite, rocky soils in closed-cone coniferous forest and chaparral. Elevational range: 655-2,085 feet.	Absent	**None.** There is no serpentine habitat in the BSA. Additionally, the BSA is outside of this species' elevation range. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are eleven CNDDB occurrences within a 5-mile radius of the BSA.
White-rayed pentachaeta *Pentachaeta bellidiflora*	FE/SE/1B.1	Mar-May	Known from fewer than twenty occurrences (historical occurrences lost to development) in Marin, Santa Cruz, and San Mateo counties. Cismontane woodland and valley and foothill grassland (often serpentinite). Elevational range: 115-2,035 feet.	Absent	**None.** There is no serpentinite cismontane woodland or valley/foothill grassland in the BSA. Additionally, the BSA is outside of this species' elevation range. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There are four CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Choris' popcornflower *Plagiobothrys chorisianus var. chorisianus*	--/--/1B.2	Mar-Jun	Known occurrences in Alameda, Monterey, Santa Clara, Santa Cruz, San Francisco, and San Mateo counties. Found in mesic soils. Chaparral, coastal prairie, and coastal scrub. Elevational range: 10-525 feet.	Absent	**None.** This species does not occur in Marin County. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco popcornflower *Plagiobothrys diffusus*	--/SE/1B.1	Mar-Jun	Known occurrences in Alameda, San Benito, Santa Cruz, San Francisco, and San Mateo counties. Historically from grassy slopes with marine influence. Coastal prairie, valley and foothill grassland. Elevational range: 60-360 feet.	Absent	**None.** This species does not occur in Marin County. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Hairless popcornflower *Plagiobothrys glaber*	--/--/1A	Mar-May	Known occurrences in Alameda, Marin, San Benito, and Santa Clara counties. Coastal salt marshes and alkaline meadows. Marshes and swamps (coastal salt), meadows and seeps (alkaline). Elevational range: 50-590 feet.	Absent	**None.** There is no coastal salt marsh or alkaline meadows or seep habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
North Coast semaphore grass *Pleuropogon hooverianus*	--/ST/1B.1	Apr-Jun	Known occurrences in Marin, Sonoma, and Mendocino counties. Open areas and mesic soils in broadleaved upland forest, meadows and seeps, and North Coast coniferous forest. Elevation range: 35-2,200 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one CNDDB occurrence within a 5-mile radius of the BSA.
Oregon polemonium *Polemonium carneum*	--/--/2B.2	Apr-Sep	Known occurrences in Alameda, Del Norte, Humboldt, Marin, San Francisco, Siskiyou, San Mateo, and Sonoma counties. Found in coastal prairie, coastal scrub, and lower montane coniferous forest. Elevational range: 0-6,005 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Tamalpais oak *Quercus parvula var. tamalpaisensis*	--/--/1B.3	Mar-Apr	Known from 9 occurrences from Mt. Tamalpais in Marin County. Found in lower montane coniferous forest. Elevational range: 330-2,460 feet.	Absent	**None.** There is no lower montane coniferous forest in the BSA. Additionally, the BSA is outside of this species' elevation range. There are fifteen CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Adobe sanicle *Sanicula maritima*	--/SR/1B.1	Feb-May	Known occurrences in Alameda, Monterey, San Francisco, and San Luis Obispo counties. Found in clay and serpentine soils. Chaparral, coastal prairie, meadows and seeps, and valley and foothill grasslands. Elevational range: 100-785 feet.	Absent	**None.** There is no clay or serpentine habitat in the BSA. Additionally, the BSA is outside of the elevation range for this species. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	--/--/1B.2	Feb-May	Known occurrences in Mendocino, Marin, and Sonoma counties. Found in freshwater marshes and swamps near the coast. Elevational range: 0-835 feet.	Absent	**None.** There is no freshwater marsh habitat in the BSA. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There is one CNDDB occurrence within a 5-mile radius of the BSA, but it is from 1922.
Marin checkerbloom *Sidalcea hickmanii ssp. viridis*	--/--/1B.1	May-Jun	Known occurrences in Marin, Napa, Sonoma, and Lake counties. Found in serpentine or volcanic soils in chaparral ecosystems, sometimes appears after burns. Elevational range: 165-1,410 feet.	Absent	**None.** There is no serpentine or volcanic soil in the BSA. Additionally, the BSA is outside of the elevation range for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There is one CNDDB occurrence within a 5-mile radius of the BSA, but it has the status "possibly extirpated."
Scouler's catchfly *Silene scouleri ssp. scouleri*	--/--/2B.2	(Mar-May)Jun-Aug(Sep)	Known occurrences in Del Norte, Humboldt, Marin, San Francisco, San Mateo, and Sonoma counties. Found in coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevational range: 0-1,970 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco campion *Silene verecunda ssp. verecunda*	--/--/1B.2	(Feb)Mar-Jul(Aug)	Known occurrences in Santa Cruz, San Francisco, San Mateo, and Sutter counties. Found in sandy coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Elevational range: 95-2,115 feet.	Absent	**None.** There is no suitable habitat in the BSA. Additionally, the BSA is outside of the elevation range for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Long-styled sand-spurrey *Spergularia macrotheca var. longistyla*	--/--/1B.2	Feb-May	Known occurrences in Alameda, Contra Costa, Napa, and Solano counties. Found in alkaline meadows, seeps, marshes and swamps. Elevational range: 0-835 feet.	Absent	**None.** There is no alkaline soil habitat in the BSA. This species does not occur in Marin County. This species was not observed during the May 2023 botanical survey conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Santa Cruz microseris *Stebbinsoseris decipiens*	--/--/1B.2	Apr-May	Known from 16 occurrences in Monterey, Marin, Santa Cruz, San Francisco, San Luis Obispo, and San Mateo counties. Open areas, sometimes serpentinite. Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Elevational range: 35-1,640 feet.	Absent	**None.** There is no suitable habitat for this species in the BSA. This species was not observed during the May 2023 botanical survey conducted during this species identification period. There are two CNDDB occurrences within a 5-mile radius of the BSA.
Tamalpais jewelflower *Streptanthus batrachopus*	--/--/1B.3	Apr-Jul	Known from fewer than ten occurrences in the Mt. Tamalpais area in Marin and Lake counties. Endemic to serpentinite soils. Found in closed-cone coniferous forest and chaparral. Elevational range: 1000-2,135 feet.	Absent	**None.** There is no serpentine habitat in the BSA. Additionally, the BSA is outside of the elevation range for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are six CNDDB occurrences within a 5-mile radius of the BSA.
Tiburon jewelflower *Streptanthus glandulosus ssp. niger*	FE/SE/1B.1	May-Jun	Known from only two occurrences on the Tiburon Peninsula in Marin County. Found in valley and foothill grassland (serpentinite). Elevational range: 100-490 feet.	Absent	**None.** There is no serpentine habitat in the BSA. Additionally, the BSA is outside of the elevation range for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Mt. Tamalpais bristly jewelflower *Streptanthus glandulosus ssp. pulchellus*	--/--/1B.2	May-Jul(Aug)	Known only from the Mt. Tamalpais area in Marin county. Endemic to serpentinite soils. Chaparral, valley and foothill grassland. Elevational range: 490-2,625 feet.	Absent	**None.** There is no serpentine habitat in the BSA. Additionally, the BSA is outside of the elevation range for this species. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are twelve CNDDB occurrences within a 5-mile radius of the BSA**..**

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA
Suisun Marsh aster *Symphyotrichum lentum*	--/--/1B.2	(Apr)May-Nov	Known occurrences in Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo counties. Found in marshes and swamps (brackish and freshwater). Elevational range: 0-10 feet.	Absent	**None.** This species does not occur in Marin County. There is no marsh habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Two-fork clover *Trifolium amoenum*	FE/--/1B.1	Apr-Jun	Known occurrences in Contra Costa, Glenn, Lake, Mendocino, San Francisco, Tehama, Marin, Napa, Santa Clara, San Mateo, Sonoma, and Solano counties. Found in coastal bluff scrub, valley and foothill grassland (sometimes serpentinite), open sunny sites, and swales. Elevation range: 15-1,360 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are two historical CNDDB occurrences within a 5-mile radius of the BSA from 1933 and 1961 respectively.
Saline clover *Trifolium hydrophilum*	--/--/1B.2	Apr-Jun	Known occurrences in Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin San Luis Obispo, San Mateo, Solano, Sonoma, and Yolo counties. Found in mesic and alkaline sites within marshes and swamps, valley and foothill grassland, and vernal pools. Elevational range: 0-985 feet.	Absent	**None.** There is no suitable habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco owl's-clover *Triphysaria floribunda*	--/--1B.2	Apr-Jun	Known occurrences in Marin, San Francisco, and San Mateo counties. Found in serpentinite and non-serpentinite substrate (such as Pt. Reyes). Coastal prairie, coastal scrub, and valley and foothill grassland. Elevational range: 35-525 feet.	Absent	**None.** There is no serpentine, coastal or grassland habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys conducted within the species' identifiable period. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Coastal triquetrella *Triquetrella californica*	--/--/1B.2	Year-round	Known occurrences in Contra Costa, Del Norte, Mendocino, Marin, San Diego, San Francisco, San Mateo, and Sonoma counties. Found in coastal bluff scrub, coastal scrub. Elevational range: 35-330 feet.	Absent	**None**. There is no coastal habitat in the BSA. This species was not observed during the May and June 2023 botanical surveys. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State/CNPS	Identification Period	Habitat Preferences and Range in California	Species Present/ Absent	Species Potential to Occur in the BSA

Conservation status definitions are as follows:

Federal designations:

E Endangered: any species in danger of extinction throughout all or a significant portion of its range.
T Threatened: any species likely to become endangered within the foreseeable future.
C Candidate: any species proposed for federal listing
X Critical habitat designated.

State designations:

E Endangered: any species in danger of extinction throughout all or a significant portion of its range.
T Threatened: any species likely to become endangered within the foreseeable future.
C Candidate: any species proposed for State listing
R Rare: any species not currently threatened with extinction, but that exists in such small numbers throughout its range that it may become endangered if its present environment worsens.

CNPS Rankings:

1B Plants rare, threatened, or endangered in California and elsewhere.
2B Plants rare, threatened, or endangered in California, but more common elsewhere.
1. Seriously threatened in California.
2. Moderately threatened in California.
3. Not very threatened in California.

Definitions for the Potential to Occur:

None. No suitable habitat present within the biological study area.
Low. Minimal or marginal quality habitat in the biological study area.
Moderate. Suitable habitat occurs within the biological study area.
High. Biological study area provides desirable habitat for species and there is a very high probability for its occurrence.
Present. Species was observed within the biological study area.

https://www.inaturalist.org/observations?lat=37.58735&lng=-122.333754&place_id=any&radius=8

Table C-1b. Special-Status Wildlife with the Potential to Occur in the Vicinity of the Biological Study Area

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Mammals				
Pallid bat *Antrozous pallidus*	--/SSC	Throughout California except for the high Sierra Nevada from Shasta to Kern Counties, and the northwestern corner of the State from Del Norte and western Siskiyou counties to northern Mendocino County. Grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. The species is most common in open, dry habitats with rocky areas for roosting. Roosts include crevices in rocky outcrops, cliffs, caves, mines, trees, and various human structures such as bridges, barns, and porches.	Present	**Low.** There are suitable tree cavities for roosting. There are three CNDDB occurrences within a 5-mile radius of the BSA.
Point Reyes mountain beaver *Aplodontia rufa phaea*	--/SSC	All known extant populations of this taxon occur on lands administered by the Point Reyes National Seashore. Currently there are no known extant populations of this taxon situated off the peninsula on privately held lands east of Inverness Ridge. Found on cool moist slopes with rich humus soils with extensive and continuous heavy chaparral or clumps of sword fern.	Absent	**None.** The BSA is not in Point Reyes National Seashore, the only place this species is known to occur. There are no CNDDB occurrences within a 5-mile radius of the BSA
Northern California ringtail *Bassariscus astutus raptor*	--/FP	Widely distributed throughout the state, except the northeast corner and the Central Valley. Avoids open space and moves from tree to tree or along structures. Found in riparian forests, chaparral, scrub, oak woodlands, and rocky hillsides with crevices and tree hollows 3 inches in diameter or greater. Omnivorous and will feed on insects and berries and will vary depending on the seasons and food availability.	Present	**Low.** There is riparian habitat but it is marginal. No potential den sites were observed within the BSA; however, this species could utilize the BSA for foraging and dispersal. There are no CNDDB observations within a 5-mile radius of the BSA.
Townsends big-eared bat *Corynorhinus townsendii*	--/SSC	Occur throughout California in the Klamath Mountains, Cascades, Sierra Nevada, Central Valley, Transverse, Coast and Peninsular Ranges, Great Basin, and the Mojave and Sonora Deserts. Rocky areas with caves in mesic habitats, excluding subalpine and alpine habitats. Uses caves, mines, tunnels, buildings and other structures for roosting. Gleans insects from foliage. Very sensitive to human disturbance. Cave-dwelling, also roosts in old mine-workings, occasionally found in buildings.	Absent	**None.** There are no caves or other structures for roosting in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA. .

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Southern sea otter *Enhydra lutris nereis*	FT/FP	The population ranges along the mainland coast from Pt. Año Nuevo, Santa Cruz County south to Purisima Point, Santa Barbara County. Primarily found in coastal waters near shore, especially shallows with kelp beds and abundant shellfish.	Absent	**None**. There is no coastal habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Western red bat *Lasiurus frantzii*	--/SSC	Roosts primarily in the foliage at tops of trees or in forests and woodlands, from sea level up through mixed conifer forests. Often adjacent to streams or meadows, prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Present	**Moderate.** There are trees adjacent to a stream, but it is a small, marginal area with no open areas for foraging. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Pablo vole *Microtus californicus sanpabloensis*	--/SSC	Saltmarshes of San Pablo Creek on the south shore of San Pablo Bay. Requires soft soils for burrow construction.	Absent	**None**. There is no salt marsh habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	--/SSC	Occur along the Central California coast from south of San Francisco Bay to Monterey Bay. Nests in a variety of habitats including riparian areas, oak woodlands, chaparral, and scrub.	Present	**None**. There is riparian habitat in the BSA, however, it is poor habitat for this species. The banks of the creek are quite steep for nesting and the understory along the top of bank is regularly disturbed by urban activities. No woodrat nests were observed within the BSA during the surveys. This species is not expected to occur within the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Salt marsh harvest mouse *Reithrodontomys raviventris*	FE/SE(FP)	Limited to saltwater and brackish marshes bordering the San Francisco Bay area. The large Petaluma Marsh (in Sonoma County) supports a considerable amount of salt marsh harvest mice. The species is distributed eastward through Suisun Bay to the opening of the Sacramento River at Antioch Dunes. It reaches western regions through the marshes at the opening of Callinas Creek on the upper Marin Peninsula, and as far south to the San Mateo Bridge; including marshes in the San Francisco Bay National Wildlife Refuge. Inhabit saline or brackish marshes. This species requires dense ground cover. Prefers the cover of pickle weed, if it has non-submerged, salt-tolerant vegetation for escape during high tides.	Absent	**None.** There is no salt marsh habitat in the BSA. There are six CNDDB occurrences within a 5-mile radius of the BSA, all in estuaries of the San Francisco Bay.
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	--/SSC	Tidal salt marsh plains above cordgrass zone, moist, lower pickleweed-dominated marsh, with abundant invertebrates, tidal debris, and flood escape habitat in the South San Francisco Bay.	Absent	**None.** There is no tidal marsh habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Suisun shrew *Sorex ornatus sinuosus*	--/SSC	Tidal marshes of the northern shores of San Pablo and Suisun bays. Requires dense low-lying cover and driftwood and other litter above the mean hightide line for nesting and foraging.	Absent	**None.** There is no tidal marsh habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA. **.**
American badger *Taxidea taxus*	--/SSC	Prefers drier open areas and may also frequent brushlands with little groundcover. Although may prefer habitats with more friable soils for digging burrows, which are used for dens, escape, and predation, the hard-baked earth in the middle of an unpaved road is no obstacle. When inactive, occupies underground burrows that are elliptical shaped and eight or more inches in diameter.	Absent	**None.** There is no dry open habitat in the BSA. No suitable burrows or ground squirrel activity were observed in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.

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Point Reyes jumping mouse *Zapus trinotatus orarius*	--/SSC	Primarily found in bunchgrass marshes on the uplands of Point Reyes. Also, found in coastal scrub, grassland, and meadow habitats. Builds nests on ground under vegetation.	Absent	**None**. There is no bunchgrass marsh, coastal scrub, grassland or meadow habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Birds				
Northern goshawk *Accipiter gentilis*	--/SSC	Permanent resident on the Klamath and Cascade Ranges, on the north Coast Ranges from Del Norte County to Mendocino County, and in the Sierra Nevada south to Kern County; winters in Modoc, Lassen, Mono, and northern Inyo Counties; rare in southern California. Nests and roosts in older stands of red fir, Jeffrey pine, and lodgepole pine forests; hunts in forests and in forest clearings and meadows.	Absent	**None.** There are no pines in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Golden eagle *Aquila chrysaetos*	--/FP	Found in foothills and mountains through-out California; uncommon nonbreeding visitor to lowlands such as the Central Valley. Concentrated in the Central Valley and coastal valleys. Cliffs and escarpments or tall trees for nesting; annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals for prey.	Absent	**None.** There are no suitable nesting habitat was observed in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Short-eared owl *Asio flammeus*	--/SSC	Found primarily in the Central Valley, western Sierra Nevada foothills and along the California coast. Requires road expanses of open land with low vegetation for nesting and foraging. Suitable habitats include such types as fresh and saltwater marshes, bogs, dunes, prairies, grassy plains, old fields, tundra, moorlands, river valleys, meadows, savanna, and open woodland. Roost by day on ground, on low open perch, under low shrub, or in conifer.	Absent	**None.** There is no suitable open habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Burrowing owl *Athene cunicularia*	--/SSC	Grasslands in the central valley and eastern California. Requires open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Absent	**None**. There is no open habitat in the BSA. No suitable burrows or ground squirrel activity were observed in the BSA. There is one CNDDB occurrence within a 5-mile radius of the BSA from 1984.

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Marbled Murrelet *Brachyramphus marmoratus*	FT/SE	Occurs from Alaska to the central coast of California. Along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Mature, coastal coniferous forests for nesting; nearby coastal water for foraging; nests in conifer stands greater than 150 years old and may be found up to 35 miles inland; winters on subtidal and pelagic waters often well offshore. Feeds near-shore. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	Absent	**None.** There is no old-growth conifer habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Swainson's hawk *Buteo swainsoni*	--/ST	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields. Range includes lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley; the state's highest nesting densities occur near Davis and Woodland, Yolo County.	Present	**None.** There are large trees within the BSA that could provide suitable nesting habitat, however, the BSA is outside of this species geographical range. There are no CNDDB occurrences within a 10-mile radius of the BSA.
Vaux's swift *Chaetura vauxi*	--/SSC	Widespread in suitable habitat throughout CA. Roost and nest in natural cavities with vertical entranceways, such as hollow trees; Forage in open sky over woodlands, lakes, and rivers, where flying insects are abundant; Nest in forests, either coniferous or mixed, but primarily old growth with snags for nesting and roosting.	Absent	**None.** There is no old growth, lake or river habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Western snowy plover *Charadrius nivosus nivosus*	FT/SSC	Populations are concentrated along the California coast with scattered populations inland. Breeds primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, found on many of the beaches used for nesting as well as on beaches where they do not nest, in man-made salt ponds, and on estuarine sand and mud flats.	Absent	**None.** There is no tidal habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Northern Harrier *Circus hudsonius*	--/SSC	Coastal salt and freshwater marshes, meadows, grasslands, and cultivated fields. Nests on the ground, commonly near low shrubs, in tall weeds or reeds.	Absent	**None**. There is no coastal, meadow, grassland or cultivated field habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Olive-sided flycatcher *Contopus cooperi*	--/SSC	Uncommon to common summer resident in a variety of forest and woodland habitats below 9,000 feet almost exclusive of the deserts, Central Valley, lowland valleys and basins. Preferred nesting habitat includes mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine habitats between 5–70 feet high. Requires large and tall trees for nesting, roosting, foraging and singing.	Present	**Low.** There is montane hardwood-conifer habitat in the BSA, including some large/tall redwoods trees. There are no CNDDB occurrences within a 5-mile radius of the BSA.

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Black swift *Cypseloides niger*	--/SSC	In Monterey County, a small population has been known from the Big Sur coast and adjacent Santa Lucia Mountains. Nests in moist crevice or cave in sea cliffs or on cliffs adjacent to waterfalls.	Absent	**None.** There is no suitable habitat in the BSA. There are no occurrences within a 5-mile radius of the BSA.
White-tailed kite (Black-shouldered kite) *Elanus leucurus*	--/FP	Range includes lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border, Central Valley and low foothills of the Sierra Nevada. Agricultural lands and open stages of most herbaceous habitats. Nests in dense oak, willow, or other tree stands. Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Absent	**None.** There is not sufficient open grassland, meadow and marsh habitat for foraging in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Willow flycatcher *Empidonax traillii*	--/SE	Rare to locally uncommon summer resident in wet meadows and montane riparian habitats from 2,000-8,000 feet in elevation and a common spring (mid-May to early June) and fall (mid-August to early September) migrant at lower elevations, primarily in riparian habitats, exclusive of the North coast. Breeding habitat is typically moist meadows with perennial streams; lowland riparian woodlands dominated by willows (Salix spp.), primarily in tree form, and cottonwoods (Populus spp.); or smaller spring-fed or boggy areas with willow or alders.	Absent	**None.** There BSA is outside of the elevation range for this species. There are no meadows or willows in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
American peregrine falcon *Falco peregrinus anatum*	FD/FP	Very wide distribution, found throughout most of North America across a range of habitats. Prefers open areas for foraging, typically preying on other birds and sometimes small reptiles and mammals. Often found near water, especially along the coast. Typical nesting sites are on cliff ledges and in hollows of dead or broken trees; in cities, may use ledges of buildings and bridges. Does not build nests, instead laying eggs in a scrape or sometimes using the old nests of other birds.	Absent	**None.** There are no open areas in the BSA. There are no cliff ledges or snags for nesting in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Salt marsh common yellowthroat *Geothlypis trichas sinuosa*	--/SSC	Breeding range is restricted to Tomales Bay on the north, Carquinez Strait on the east, and Santa Cruz County on the south. Found in salt and freshwater marshes, coastal swales, swampy riparian thickets, brackish marshes, and edges of disturbed weed fields and grasslands that border soggy habitats.	Absent	**None.** There is no tidal habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.

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Bald eagle *Haliaeetus leucocephalus*	--/SE,FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino counties and the Lake Tahoe Basin. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County. In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean. Prefers ponderosa pine with open branch work in stands with less than 40% canopy.	Absent	**None.** There is not adequate forest and aquatic habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Yellow-Breasted Chat *Icteria virens*	--/SSC	Breeds throughout the state with the exception of higher mountains and coastal islands. Require dense riparian thickets of willows, vine tangles, and dense brush associated with streams, swampy ground and the borders of small ponds.	Absent	**None**. There is no dense riparian thicket in the BSA. The BSA is outside of this species known geographical range. There are no CNDDB occurrences within a 5-mile radius of the BSA.
California Black Rail *Laterallus jamaicensis coturniculus*	--/ST,FP	Marshlands with tidal influence (estuarine, intertidal, emergent, regularly flooded). Occurs in freshwater marshes, along the margins of ponds, lakes, and water impoundments; and herb dominated wetlands on sloped ground associated with springs, canal leaks, seepage from impoundments and agricultural irrigation. Prefers areas dominated by pickleweed, bulrushes, matted salt grass, and other marsh vegetation. Needs water depths of about one inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Absent	**None.** There is no tidal habitat in the BSA. There are six CNDDB occurrences within a 5-mile radius of the BSA along the estuary to the SF Bay.
Suisun song sparrow *Melospiza melodia maxillaris*	--/SSC	Intermixed stands of bulrush, cattail, and other emergent vegetation provide ideal habitat. Endemic to Suisun Bay.	Absent	**None.** The BSA is not in Suisun Bay. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Alameda song sparrow *Melospiza melodia pusillula*	--/SSC	Restricted to tidal salt marsh habitat located on the fringes of the south arm of San Francisco Bay east to El Cerrito, south to Alviso, and west to San Francisco. Found in all relatively large marshes (e.g., Dumbarton Marsh, Palo Alto Baylands, Hayward Regional Shoreline, Emeryville, Alameda, San Leandro, San Lorenzo, and Coyote Creek) and in most remnant patches of marsh vegetation along sloughs, dikes, and levees, including some highly disturbed and urbanized sites.	Absent	**None.** There is no tidal habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
San Pablo Song Sparrow *Melospiza melodia samuelis*	--/SSC	Resident of salt marshes bordering the north side of the San Francisco and San Pablo Bays. Requires dense vegetation for nesting, perches, and cover from predators.	Absent	**None.** There is no tidal habitat in the BSA. There are three CNDDB occurrences within a 5-mile radius of the BSA in the SF Bay and nearby estuaries.

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California Brown Pelican *Pelecanus occidentalis californicus*	DL/FP	Nesting restricted to islands in the Gulf of California and along the outer coast from Baja California to West Anacapa and Santa Barbara Island in Southern California. Non-breeding brown pelicans range northward along the Pacific Coast from the Gulf of California to Washington and southern British Columbia. Breed in nesting colonies on islands without mammal predators. Roosting and loafing sites include offshore rocks and islands, river mouths with sand bars, breakwaters, pilings, and jetties along the Pacific Coast and San Francisco Bay.	Absent	**None.** There is no island habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Cassins auklet *Ptychoramphus aleuticus*	--/SSC	Nests on Pacific coast islands from Alaska to Baja California. Occurs offshore in California year-round. Cassins auklet usually nest in burrows, rocky crevices, debris piles, large caves, or even in cracks under buildings.	Absent	**None.** There is no offshore habitat in the BSA. There are four CNDDB occurrences within a 5-mile radius of the BSA along the estuary to the SF Bay.
Ridgeway's rail *Rallus obsoletus*	FE/SE,FP	Saltwater and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. In the south and central San Francisco Bay and along the perimeter of San Pablo Bay, rails typically inhabit salt marshes dominated by pickleweed and Pacific cordgrass.	Absent	**None.** There is no tidal habitat in the BSA. There are four CNDDB occurrences within a 5-mile radius of the BSA along the estuary to the SF Bay.
Bank swallow *Riparia riparia*	--/ST	Open and partly open habitats, frequently near flowing water. Nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits or road embankments.	Absent	**None.** There is no open habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Yellow warbler *Setophaga petechia*	--/SSC	Found throughout California except in Mojave and Colorado Desert. Occurs principally as a migrant and summer resident from late March through early October; breeds from April to late July. Inhabits riparian vegetation (often willows and cottonwoods) in close proximity to water along streams and in wet meadows.	Present	**Moderate.** There is a thin band of riparian vegetation along a stream in the BSA, but it is regularly disturbed by human activities. There are no CNDDB occurrences within a 5-mile radius of the BSA.
California least tern *Sterna antillarum browni*	FE/SE,FP	Nests in colonies on the Pacific coast of California and Baja, Mexico on the ground of open beaches. Usually forms colonies on bare or sparsely vegetated sand or dried mudflats along coasts or rivers, but also on sandy or shell islands and gravel and sand pits. Occasionally nests among stones, has also been seen using sand or shell beaches located just above high-tide level swept free of vegetation by periodic, high storm tides or more inland in mudflats of fill sites.	Absent	**None.** There is no coastal habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.

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Northern spotted owl *Strix occidentalis caurina*	FT/ST,SSC	Found in northwestern California south to Marin County in coniferous forests with a multi-layered, multi-species canopy with moderate to high canopy closure; large snags (standing dead trees); an abundance of large, dead wood on the ground; and open space within and below the upper canopy to fly.	Absent	**None.** Northern spotted owls are not expected to nest in the BSA; the Project site does not provide the coniferous multi-layered canopy and open space for this species. There are 20 known territories within a 5-mile radius of the BSA.
Reptiles				
Western pond turtle *Actinemys marmorata*	--/SSC	Occurs throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries (CDFW 2021b). Found in permanent or nearly permanent bodies of water with protected areas for basking, such as partially submerged rocks or logs, floating vegetation mats or open mud banks. Terrestrial habitats used for wintering, egg-laying, and foraging. Omnivorous, feeding on flowers, algae, amphibians, fish, crustaceans, and insects.	Present	**Low.** San Anselmo Creek contains suitable aquatic habitat for this species. Within the BSA, the habitat is marginal because it is heavily shaded and lacks basking habitat and adjacent upland habitat. There are 4 CNDDB occurrences within a 5-mile radius of the BSA.
Green sea turtle- East Pacific DPS *Chelonia mydas*	FT/--	Does not nest on beaches of Northern California (NMFS and USFWS 2007); may occur in open water habitat off the coastline of Del Norte County. Found on both coasts of North America and Pacific Islands.	Absent	**None.** This is a pelagic species. The BSA does not contain habitat. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Coast horned lizard *Phrynosoma blainvillii*	--/SSC	Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast. Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	Absent	**None.** There is no suitable habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Amphibians				
California giant salamander *Dicamptodon ensatus*	--/SSC	Humid coastal forests, especially in Douglas fir, redwood, red fir, and montane and valley-foothill riparian habitats. Adults are usually within 50 meters of streams.	Present	**Moderate**. The BSA contains mixed montane hardwood riparian habitat (California Bay Forest and Woodland) within 50 meters of a stream. There are six CNDDB occurrences within a 5-mile radius of the BSA.
Foothill yellow- legged frog, North Coast DPS *Rana boylii pop. 1*	--/SSC	Partially shaded, rocky streams at low to moderate elevations, in areas of chaparral, open woodland, and forest. Needs some cobble-sized substrate for egg-laying.	Present	**Moderate.** The BSA contains a shaded stream and cobble which provide suitable breeding and dispersal habitat. There are eleven CNDDB occurrences within a 5-mile radius of the BSA.

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California red-legged frog *Rana draytonii*	FT/SSC	Occurs along the Coast Ranges from Mendocino County south and in portions of the Sierra Nevada and Cascades ranges (CDFW 2018d). Highly aquatic, preferring shorelines with extensive vegetation. Lives near quiet, permanent pools of streams, marshes, and occasionally ponds.	Absent	**None.** The BSA lacks slow-moving water with adjacent upland habitat and adequate refuge from high flows in the winter because of steeply incised and/or armored banks. This species is not known to occur in San Anselmo Creek or within the Corte Madera Creek watershed (CDFW 2023, MCWP 2023). There are no CNDDB occurrences within a 5-mile radius of the BSA.
Fish				
Green sturgeon, sDPS *Acipenser medirostris pop. 1*	FT/--	Anadromous fish, spawn in the Sacramento, Feather, and Yuba River. Adult spawning runs enter San Francisco Bay between mid-February and early May, migrate rapidly up the Sacramento River. Juveniles rear in delta and estuary for a few years before moving out to the ocean.	Absent	**None.** This species is known to occur in the San Francisco Bay estuary, but San Anselmo Creek does not provide suitable habitat. There are no CNDDB occurrences within a 5-mile radius of the BSA.
White sturgeon *Acipenser transmontanus*	--/SSC	Occurs in coastal waters from Alaska to Baja California. Primarily reside in rivers and estuaries, including the Sacramento-San Joaquin system in California.	Absent	**None.** This species is known to occur in the San Francisco Bay estuary, but San Anselmo Creek does not provide suitable habitat. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Pacific lamprey *Entosphenus tridentatus*	--/SSC	Widely distributed in the Pacific from Japan to Mexico. Pacific lamprey is rare north of Alaska, and occurs sporadically south of San Luis Obispo County. This species is anadromous and parasitic, with most of its time spent in the ocean. Occurs in moderate gradient pool and riffle habitat during runs. Lay eggs in gravel riffles upstream of muddy backwater habitat for the larvae, which are filter feeders.	Present	**Low.** There is suitable habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Tidewater Goby *Eucyclogobius newberryi*	FE/--	Inhabit lagoons, bar-built estuaries, as well as muted tidal settings such as gated channels, backwater marshes, and freshwater tributary entries peripheral to bays and estuaries. Occur in brackish or freshwater much of the year. Tidewater gobies often migrate upstream from the lagoon into tributaries. Endemic to California, ranging from northern Del Norte County south to San Diego County. Absent from areas where the coastline is steep, and streams do not form lagoons or estuaries.	Absent	**None.** There is no tidal habitat in the BSA. There is one CNDDB occurrences within a 5-mile radius of the BSA, but it is categorized as "extirpated."

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Southern coastal roach *Hesperoleucus venustus subditus*	--/SSC	Southern coastal roach are restricted to the drainages of Tomales Bay/northern SF Bay in the north and Monterey Bay in the south. The northern population is restricted to the Lagunitas Creek and Walker Creek drainages of western Marin County. They are opportunistic omnivores who can tolerate a range of different habitats.	Absent	**None.** The BSA is outside of this species known geographically range.
Delta smelt *Hypomesus transpacificus*	FT/SE-	Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. Seldom found at salinities >10 ppt. Most often at salinities <2 ppt.	Absent	**None.** This species is primarily found in the Sacramento River delta. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Western river lamprey *Lampetra ayresii*	--/SSC	Occur in coastal streams from Alaska south to San Francisco Bay. In California, they have been recorded from the Sacramento and San Joaquin Delta while migrating, tributaries to the San Francisco Estuary (Napa River, Sonoma Creek, Alameda Creek), and tributaries to the Sacramento and San Joaquin rivers (e.g. Tuolumne River, Stanislaus River, Cache Creek). The habitat requirements and environmental tolerances of spawning adults and ammocoetes have not been studied in California. Presumably, like other lampreys, adults need clean, gravelly riffles in permanent streams for spawning, while ammocoetes require sandy to silty backwaters or stream edges in which to bury themselves, where water quality is continuously high and temperatures do not exceed 25°C.	Present	**None.** There is suitable habitat in the BSA, however, there are no records of this species from the Corte Madera Creek watershed; the three San Francisco Bay estuary tributaries from which they are known (Alameda Creek, Sonoma Creek, and the Napa River) are significantly larger watersheds. They are not expected to occur in San Anselmo Creek. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Coho salmon - central California coast ESU *Oncorhynchus kisutch pop. 4*	FE/SE	Spawn in cool, clear streams featuring suitable gravel size, depth, and current velocity. Streamside vegetation and cover area essential for fry survival.	Present	**None.** Coho salmon were last documented in Corte Madera Creek in the 1980s; prior to the 1970s, spawning winter-run coho were common in the major tributaries to Corte Madera Creek, including San Anselmo Creek. They are now considered extirpated from the Corte Madera Creek watershed (and all San Francisco Bay estuary tributary streams). For this reason, this species is not expected to occur and was not further addressed in this document (A.A. Rich and Associates 2000; FCMCW 2004; Leidy et al. 2005; Leidy 2007). There is one CNDDB occurrence within a 5-mile radius of the BSA.

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Steelhead - Central California Coast DPS *Oncorhynchus mykiss pop. 8*	FTX/--	Coastal rivers and streams creeks from Santa Cruz County north to Russian River Basin including rivers and streams tributary to the San Francisco Bay. Anadromous fish species that spawns and spends a portion of its life in fresh inland streams, maturing in the open ocean. Spawns in small streams where cool, well-oxygenated water is available year-round.	Present	**High.** There is suitable habitat in the BSA. This DPS is known to occur in San Anselmo and Corte Madera creeks and both creeks are designated critical habitat for this DPS of steelhead. Surveys have consistently found O. mykiss in the Corte Madera Creek watershed (A.A. Rich and Associates 2000; CDFW 2013; Leidy 2005b). There are no CNDDB occurrences within a 5-mile radius of the BSA.
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	FT/--	Occur in the Sacramento and San Joaquin Rivers and tributaries, Sacramento-San Joaquin Delta, and San Francisco Bay. This species needs cool water with moderate size gravel for spawning and cover for rearing.	Present	**None**. This DPS migrates through the San Francisco Bay and Delta to reach spawning grounds in the Central Valley but is not expected in tributary streams to the San Francisco and San Pablo bays (such as Corte Madera Creek). As such, this DPS is not expected to occur and was not addressed further in this document.

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Chinook salmon-Sacramento River winter-run *Oncorhynchus tshawytscha pop. 7*	FE/SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 C for spawning.	Present	**None.** The Sacramento River Winter-run ESU of Chinook salmon migrates through the San Francisco Bay and the Sacramento-San Joaquin River Delta to reach spawning grounds in the upper Sacramento River (December-July). Chinook salmon have been reported from San Anselmo Creek historically (Leidy 2007; FCMCW 2004); a few chinook have been reported in the last 10 years but these fish are considered aberrant wanderers from the Sacramento-San Joaquin River system and the timing of their arrivals indicate that they are likely fall-run Chinook (Leidy 2007 and MCWP 2014). As such, they are not expected to occur and are not addressed further in this document.
Chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha pop. 11*	FT/ST	Occurs in the Sacramento River, Mill Creek, Deer Creek, Butte Creek, Yuba River, Feather River, Sacramento-San Joaquin Delta, and San Francisco Bay. This species needs cool water with moderate size gravel for spawning and cover for rearing.	Present	**None.** Chinook salmon have been reported above and below the BSA both recently and historically; however, these fish are considered aberrant wanderers from the Sacramento-San Joaquin River system and the timing of their arrivals indicate that they are fall-run Chinook (FCMCW 2004; MCWP 2014; Leidy 2007). Because there are no records of spring-run Chinook salmon utilizing estuary streams, they are not expected to occur and were not addressed further in this document. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Chinook salmon - Central Valley fall / late fall-run ESU *Oncorhynchus tshawytscha pop. 13*	--/SSC	Occurs in the Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay. Historically spawned in the upper reaches of the Sacramento River, McCloud River and lower Pit River. Currently, spawning is limited to reaches of the Sacramento River below Keswick Dam. Does not spawn in tributary streams. Needs cold, clean water with moderate size gravel for spawning and egg incubation. Water temperatures between 6-14 degrees Celsius are required for hatching.	Present	**Very Low.** There is suitable habitat in the BSA. Chinook salmon have been reported from San Anselmo Creek historically (Leidy 2007; FCMCW 2004); a few chinook have been reported in the last 10 years but these fish are considered aberrant wanderers from the Sacramento-San Joaquin River system and the timing of their arrivals indicate that they are likely fall-run Chinook (Leidy 2007, MCWP 2014, and FCMCW 2004). The Marin County Watershed Program's fish distribution map shows Chinook in lower Corte Madera Creek below the confluence with Tamalpais Creek (MCWP 2017). There are no CNDDB occurrences within a 5-mile radius of the BSA. Because fall-run Chinook salmon are unlikely to inadvertently migrate upstream into the Project vicinity, they are not expected to occur and are not addressed further in this document.
Sacramento splittail *Pogonichthys macrolepidotus*	--/SSC	Formerly throughout Sacramento-San Joaquin River drainage, CA; now restricted to San Francisco Bay Delta and lower Sacramento River. Found in slow moving river sections, dead end sloughs, backwaters and pools of rivers, lakes. Requires flooded vegetation for spawning and foraging for young. Tolerant of brackish water.	Absent	**None.** The BSA is outside of this species known geographical range. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Longfin smelt *Spirinchus thaleichthys*	FC/ST	Scattered populations of longfin smelt occur along the Pacific coast of North America from Alaska to the San Francisco Estuary. Historically found in the San Francisco Estuary and the Sacramento/San Joaquin Delta (Bay-Delta), Humboldt Bay, and the estuaries of the Eel River and Klamath River. Longfin smelt larvae and small juveniles are rarely found in water warmer than 71.6 ºF (22 ºC). Competent-swimming young juveniles disperse toward more-saline and deeper-water habitats. Mature longfin smelt require cool-to-cold [less than 60.8 ºF (16 ºC)] freshwater habitats for spawning. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 parts per trillion but can be found in freshwater to almost pure seawater.	Absent	**None.** There is no estuarine habitat in the BSA. There are two CNDDB occurrences within a 5-mile radius of the BSA.
Eulachon *Thaleichthys pacificus*	FT/--	Found in Klamath River, Mad River, Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries. Have been collected as far south as Bodega Head (Sonoma County), San Francisco Bay, and Point Buchon (San Luis Obispo county) (Moyle 2002). Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	Absent	**None.** There is no coastal river habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Invertebrates				
Western bumble bee *Bombus occidentalis*	--/SCE	Ranges broadly from northern Mexico to central British Columbia. In California, historically occurred from sea level to over 8,000 feet in shrublands, chaparral, gardens and urban parks.	Present.	**Low.** There is urban park-like habitat in the BSA; this habitat could sustain foraging but no nesting. There are five CNDDB occurrences within a 5-mile radius of the BSA, but they are all from before 1962.
Monarch butterfly – California overwintering population *Danaus plexippus pop. 1*	FC/--	Overwinter in central to southern California coastal region. California overwintering habitat including eucalyptus, Monterey pines, and Monterey cypresses. Milkweed is the sole food source for larvae.	Absent	**None.** Overwintering habitat is not present within the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Common Name *Scientific Name*	Listing Status Federal/State	Habitat Preferences and Range in California	Habitat Present/Absent within BSA	Species Potential to Occur within the BSA
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT/--	Historically, occurred primarily along the spine of the San Francisco peninsula, from Twin Peaks to southern Santa Clara County and in a few pockets in Alameda and Contra Costa counties. Current range is patchy and much diminished, consisting of only five known core areas — one on the San Francisco peninsula, one in San Mateo County, and four in Santa Clara County. Restricted to native grasslands on outcrops of serpentine soil. The primary larvae host plant is dwarf plantain (*Plantago erecta*). The larvae require a second host plant when the plantain dries up. Under these conditions, the larvae move to purple owl's clover (*Castilleja densiflora or C. exserta*). Can disperse up to 4.7 miles to find suitable habitat.	Absent	**None**. There is no *Plantago erecta* or *Castilleja densiflora* in the BSA, which is outside of the current known range of this species. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Mission blue butterfly *Icaricia icarioides missionensis*	FE/--	Coastal chaparral and coastal grasslands dominate the vegetation type where colonies are found. Adults do not wander far from lupine, the larval food plant. Adults feed on golden aster, blue dicks, Ithuriel's spear, and coast buckwheat.	Absent	**None**. There is no coastal chaparral or grassland habitat in the BSA, nor are there any of this species' feeding plants. There are no CNDDB occurrences within a 5-mile radius of the BSA.
Callippe silverspot butterfly *Speyeria callippe callippe*	FE/--	Restricted to the Northern Coastal scrub of the San Francisco Peninsula. Host plants are Johnny jump up and canary violet.	Absent	**None**. There is no coastal scrub habitat in the BSA, which is outside of this species' current range. There are no CNDDB occurrences within a 5-mile radius of the BSA**.**
California freshwater shrimp *Syncaris pacifica*	FE/SE	Endemic to Marin, Napa, and Sonoma Counties. Extant populations in Lagunitas Creek in Marin County; Huichica Creek in Napa County; and Franz, East Austin, Sonoma, and Salmon Creeks in Sonoma County. Pool areas of low-elevation (less than 116m), low-gradient (generally less than 1%) streams where riparian cover is moderate to heavy, permanent streams; among live tree roots of undercut banks; and under overhanging woody debris or vegetation.	Present	**Low**. There is low-elevation, low-gradient permanent stream habitat in the BSA. There are no CNDDB occurrences within a 5-mile radius of the BSA.

Conservation status definitions are as follows:
Federal designations:
FE Endangered: any species in danger of extinction throughout all or a significant portion of its range.
FT Threatened: any species likely to become endangered within the foreseeable future.
FC Candidate: any species proposed for federal listing.
FR Review: listing status under review.
X Critical habitat designated.
State designations:
SE Endangered: any species in danger of extinction throughout all or a significant portion of its range.
ST Threatened: any species likely to become endangered within the foreseeable future.
SC Candidate: any species proposed for State listing.
SSC Species of Special Concern: any species which meets the State definition of threatened or endangered but has not been formally listed.

FP Fully Protected: early designation given to species that were rare or facing potential extinction.

Definitions for the Potential to Occur:
None. No suitable habitat present within the biological study area.
Low. Minimal or marginal quality habitat in the biological study area.
Moderate. Suitable habitat occurs within the biological study area.
High. Biological study area provides desirable habitat for species and there is a very high probability for its occurrence.
Present. Species was observed within the biological study area.

Appendix C-3. Species Lists (Database Searches)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: 07/15/2024 22:08:57 UTC
Project Code: 2024-0116533
Project Name: Bolinas Avenue Storm Drain Improvement Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through IPaC by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service (fws.gov).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2024-0116533
Project Name: Bolinas Avenue Storm Drain Improvement Project
Project Type: Stormwater Discharge
Project Description: Building new storm drain to reduce flooding and improve public safety
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.968672049999995,-122.560416860855,14z

Counties: Marin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 15 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered

BIRDS

NAME	STATUS
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway"s Rail *Rallus obsoletus obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	Threatened

NAME	STATUS

Species profile: https://ecos.fws.gov/ecp/species/2891

FISHES

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/57

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

FLOWERING PLANTS

NAME	STATUS
Marin Dwarf-flax *Hesperolinon congestum*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5363

Santa Cruz Tarplant *Holocarpha macradenia*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/6832

Showy Indian Clover *Trifolium amoenum*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6459

White-rayed Pentachaeta *Pentachaeta bellidiflora*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7782

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Area West Environmental, Inc.
Name: Becky Rozumowicz
Address: 6248 Main Avenue, Suite C
City: Orangevale
State: CA
Zip: 95662
Email frontdesk@areawest.net
Phone: 9169873362

Bolinas Avenue Storm Drain Improvement Phase 2 Project

edeng . <edeng@areawest.net>

Mon 7/15/2024 3:18 PM

To:nmfs.wcrca.specieslist@noaa.gov <nmfs.wcrca.specieslist@noaa.gov>

Outfall Construction Project.

Quad Name San Rafael
Quad Number 37122-H5
ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - X
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - X
SRWR Chinook Salmon ESU (E) - X
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - X
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - X
Eulachon (T) -
sDPS Green Sturgeon (T) - X
ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat - X
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - X
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X
ESA Marine Invertebrates

Range Black Abalone (E) - X
Range White Abalone (E) -
ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat - X
ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X
ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -
MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult Monica DeAngelis
monica.deangelis@noaa.gov
562-980-3232

MMPA Cetaceans - X
MMPA Pinnipeds - X

AREA WEST ENVIRONMENTAL, INC. EST 2000

Emily Deng | **Analyst/Technician** | 916.987.3362 | edeng@areawest.net
6248 Main Avenue, Suite C, Orangevale, CA 95662 | areawest.net

AWE Reference Number: 22-017

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (San Geronimo (3812216) OR Novato (3812215) OR Bolinas (3712286) OR San Rafael (3712285) OR Point Bonita (3712275) OR San Francisco North (3712274) OR San Quentin (3712284) OR Petaluma Point (3812214))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Adela oplerella Opler's longhorn moth	IILEE0G040	None	None	G2	S2	
Alopecurus aequalis var. sonomensis Sonoma alopecurus	PMPOA07012	Endangered	None	G5T1	S1	1B.1
Amorpha californica var. napensis Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Aphyllon robbinsii Robbins' broomrape	PDORO040Q0	None	None	G1	S1	1B.1
Aplodontia rufa phaea Point Reyes mountain beaver	AMAFA01012	None	None	G5T2	S2	SSC
Arctostaphylos franciscana Franciscan manzanita	PDERI040J3	Endangered	None	GHC	S1	1B.1
Arctostaphylos montana ssp. montana Mt. Tamalpais manzanita	PDERI040J5	None	None	G3T3	S3	1B.3
Arctostaphylos montana ssp. ravenii Presidio manzanita	PDERI040J2	Endangered	Endangered	G3T1	S1	1B.1
Arctostaphylos virgata Marin manzanita	PDERI041K0	None	None	G2	S2	1B.2
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Arenaria paludicola marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
Asio flammeus short-eared owl	ABNSB13040	None	None	G5	S2	SSC
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S2	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
Bombus occidentalis western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
Caecidotea tomalensis Tomales isopod	ICMAL01220	None	None	G2	S2S3	
Calamagrostis crassiglumis Thurber's reed grass	PMPOA17070	None	None	G3Q	S2	2B.1
Calicina diminua Marin blind harvestman	ILARAU8040	None	None	G1	S1	
Callophrys mossii marinensis Marin elfin butterfly	IILEPE2207	None	None	G4T1	S2	
Calochortus tiburonensis Tiburon mariposa-lily	PMLIL0D1C0	Threatened	Threatened	G1	S1	1B.1
Calystegia purpurata ssp. saxicola coastal bluff morning-glory	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
Cardamine angulata seaside bittercress	PDBRA0K010	None	None	G4G5	S3	2B.1
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Carex lyngbyei Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2
Carex praticola northern meadow sedge	PMCYP03B20	None	None	G5	S2	2B.2
Castilleja affinis var. neglecta Tiburon paintbrush	PDSCR0D013	Endangered	Threatened	G4G5T1T2	S1S2	1B.2
Ceanothus decornutus Nicasio ceanothus	PDRHA04440	None	None	G1	S1	1B.2
Ceanothus masonii Mason's ceanothus	PDRHA04200	None	Rare	G1	S1	1B.2
Charadrius nivosus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Chloropyron maritimum ssp. palustre Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Circus hudsonius northern harrier	ABNKC11011	None	None	G5	S3	SSC
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
Cirsium hydrophilum var. vaseyi Mt. Tamalpais thistle	PDAST2E1G2	None	None	G2T1	S1	1B.2
Clarkia franciscana Presidio clarkia	PDONA050H0	Endangered	Endangered	G1	S1	1B.1
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coastal Terrace Prairie Coastal Terrace Prairie	CTT41100CA	None	None	G2	S2.1	
Collinsia corymbosa round-headed collinsia	PDSCR0H060	None	None	G1	S1	1B.2
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S3	SSC
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
Dermatocarpon meiophyllizum silverskin lichen	NLTEST91L0	None	None	G3G5	S3	2B.3
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC
Dirca occidentalis western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Enhydra lutris nereis southern sea otter	AMAJF09012	Threatened	None	G4T2	S3	FP
Entosthodon kochii Koch's cord moss	NBMUS2P050	None	None	G1	S1	1B.3
Erethizon dorsatum North American porcupine	AMAFJ01010	None	None	G5	S3	
Eriogonum luteolum var. caninum Tiburon buckwheat	PDPGN083S1	None	None	G5T2	S2	1B.2
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Eumetopias jubatus Steller sea lion	AMAJC03010	Delisted	None	G3	S2	
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S3	
Falco peregrinus anatum American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria lanceolata var. tristulis Marin checker lily	PMLIL0V0P1	None	None	G5T2	S2	1B.1
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gilia capitata ssp. chamissonis blue coast gilia	PDPLM040B3	None	None	G5T2	S2	1B.1
Gilia capitata ssp. tomentosa woolly-headed gilia	PDPLM040B9	None	None	G5T2	S2	1B.1
Gilia millefoliata dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Grindelia hirsutula var. maritima San Francisco gumplant	PDAST470D3	None	None	G5T1Q	S1	3.2
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hemizonia congesta ssp. congesta congested-headed hayfield tarplant	PDAST4R0W1	None	None	G5T2	S2	1B.2
Hesperoleucus venustus subditus southern coastal roach	AFCJB19032	None	None	GNRT2	S2	SSC
Hesperolinon congestum Marin western flax	PDLIN01060	Threatened	Threatened	G1	S1	1B.1
Heteranthera dubia water star-grass	PMPON03010	None	None	G5	S2	2B.2
Holocarpha macradenia Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Horkelia marinensis Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
Horkelia tenuiloba thin-lobed horkelia	PDROS0W0E0	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Hypogymnia schizidiata island tube lichen	NLT0032640	None	None	G2G3	S2	1B.3
Icaricia icarioides missionensis Mission blue butterfly	IILEPG801A	Endangered	None	G5T2	S2	
Icaricia icarioides pheres Pheres blue butterfly	IILEPG8019	None	None	G5TX	SX	
Kopsiopsis hookeri small groundcone	PDORO01010	None	None	G4?	S1S2	2B.3
Lasiurus cinereus hoary bat	AMACC05032	None	None	G3G4	S4	
Lasiurus frantzii western red bat	AMACC05080	None	None	G4	S3	SSC
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
Layia carnosa beach layia	PDAST5N010	Threatened	Endangered	G2	S2	1B.1
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Lessingia germanorum San Francisco lessingia	PDAST5S010	Endangered	Endangered	G1	S1	1B.1
Lessingia micradenia var. micradenia Tamalpais lessingia	PDAST5S063	None	None	G2T2	S2	1B.2
Lichnanthe ursina bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
Melospiza melodia pusillula Alameda song sparrow	ABPBXA301S	None	None	G5T2T3	S2	SSC
Melospiza melodia samuelis San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
Microcina tiburona Tiburon micro-blind harvestman	ILARA47060	None	None	G2	S2	
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
Microtus californicus sanpabloensis San Pablo vole	AMAFF11034	None	None	G5T1T2	S1S2	SSC
Mielichhoferia elongata elongate copper moss	NBMUS4Q022	None	None	G5	S3S4	4.3
Nannopterum auritum double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Navarretia rosulata Marin County navarretia	PDPLM0C0Z0	None	None	G2	S2	1B.2

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Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Coastal Salt Marsh						
Nycticorax nycticorax	ABNGA11010	None	None	G5	S4	
black-crowned night heron						
Oncorhynchus kisutch pop. 4	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
coho salmon - central California coast ESU						
Oncorhynchus mykiss irideus pop. 8	AFCHA0209G	Threatened	None	G5T3Q	S3	SSC
steelhead - central California coast DPS						
Pentachaeta bellidiflora	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
white-rayed pentachaeta						
Plagiobothrys chorisianus var. chorisianus	PDBOR0V061	None	None	G3T1Q	S1	1B.2
Choris' popcornflower						
Plagiobothrys diffusus	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
San Francisco popcornflower						
Plagiobothrys glaber	PDBOR0V0B0	None	None	GX	SX	1A
hairless popcornflower						
Pleuropogon hooverianus	PMPOA4Y070	None	Threatened	G2	S2	1B.1
North Coast semaphore grass						
Pogonichthys macrolepidotus	AFCJB34020	None	None	G3	S3	SSC
Sacramento splittail						
Polemonium carneum	PDPLM0E050	None	None	G3G4	S2	2B.2
Oregon polemonium						
Polygonum marinense	PDPGN0L1C0	None	None	G2Q	S2	3.1
Marin knotweed						
Pomatiopsis binneyi	IMGASJ9010	None	None	G1	S1	
robust walker						
Pomatiopsis californica	IMGASJ9020	None	None	G1	S1	
Pacific walker						
Quercus parvula var. tamalpaisensis	PDFAG051Q3	None	None	G4T2	S2	1B.3
Tamalpais oak						
Rallus obsoletus obsoletus	ABNME05011	Endangered	Endangered	G3T1	S2	FP
California Ridgway's rail						
Rana boylii pop. 1	AAABH01051	None	None	G3T4	S4	SSC
foothill yellow-legged frog - north coast DPS						
Rana draytonii	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California red-legged frog						
Reithrodontomys raviventris	AMAFF02040	Endangered	Endangered	G1G2	S3	FP
salt-marsh harvest mouse						
Riparia riparia	ABPAU08010	None	Threatened	G5	S3	
bank swallow						
Sanicula maritima	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
adobe sanicle						

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Scapanus latimanus insularis Angel Island mole	AMABB02032	None	None	G5T1	S2?	
Serpentine Bunchgrass Serpentine Bunchgrass	CTT42130CA	None	None	G2	S2.2	
Sidalcea calycosa ssp. rhizomata Point Reyes checkerbloom	PDMAL11012	None	None	G5T2	S2	1B.2
Sidalcea hickmanii ssp. viridis Marin checkerbloom	PDMAL110A4	None	None	G2TH	SH	1B.1
Silene scouleri ssp. scouleri Scouler's catchfly	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
Silene verecunda ssp. verecunda San Francisco campion	PDCAR0U213	None	None	G5T1	S1	1B.2
Sorex ornatus sinuosus Suisun shrew	AMABA01103	None	None	G5T1T2Q	S1S2	SSC
Sorex vagrans halicoetes salt-marsh wandering shrew	AMABA01071	None	None	G5T1	S1	SSC
Spergularia macrotheca var. longistyla long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
Speyeria callippe callippe callippe silverspot butterfly	IILEPJ6091	Endangered	None	G5T1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Proposed Endangered	Threatened	G5	S1	
Stebbinsoseris decipiens Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
Streptanthus batrachopus Tamalpais jewelflower	PDBRA2G050	None	None	G2	S2	1B.3
Streptanthus glandulosus ssp. niger Tiburon jewelflower	PDBRA2G0T0	Endangered	Endangered	G4T1	S1	1B.1
Streptanthus glandulosus ssp. pulchellus Mt. Tamalpais bristly jewelflower	PDBRA2G0J2	None	None	G4T2	S2	1B.2
Stygobromus hyporheicus hyporheic amphipod	ICMAL05D80	None	None	G1	SX	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Syncaris pacifica California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
Talanites ubicki Ubick's gnaphosid spider	ILARA98030	None	None	G1	S1	
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thaleichthys pacificus eulachon	AFCHB04010	Threatened	None	G5	S1	SSC

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Trachusa gummifera	IIHYM80010	None	None	G1	S1	
San Francisco Bay Area leaf-cutter bee						
Trifolium amoenum	PDFAB40040	Endangered	None	G1	S1	1B.1
two-fork clover						
Trifolium hydrophilum	PDFAB400R5	None	None	G2	S2	1B.2
saline clover						
Triphysaria floribunda	PDSCR2T010	None	None	G2?	S2?	1B.2
San Francisco owl's-clover						
Triquetrella californica	NBMUS7S010	None	None	G2	S2	1B.2
coastal triquetrella						
Tryonia imitator	IMGASJ7040	None	None	G2	S2	
mimic tryonia (=California brackishwater snail)						
Vespericola marinensis	IMGASA4140	None	None	G2	S2	
Marin hesperian						
Zapus trinotatus orarius	AMAFH01031	None	None	G5T2	S2	SSC
Point Reyes jumping mouse						

Record Count: 153

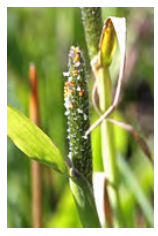
California Native Plant Society

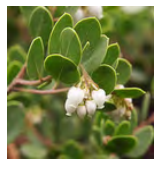
CNPS Rare Plant Inventory

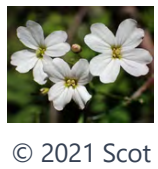
Search Results

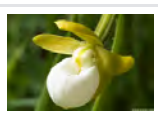
116 matches found. Click on scientific name for details

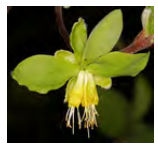
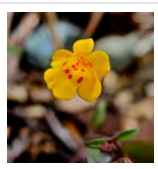
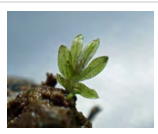
Search Criteria: 9-Quad include [**3812216:3812215:3712286:3712285:3712275:3712274:3712284:3812214**]

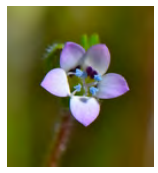
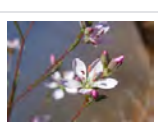
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Allium peninsulare var. *franciscanum*	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	None	None	1B.2	Yes	2001-01-01	 © 2019 Aaron Arthur
Alopecurus aequalis var. *sonomensis*	Sonoma alopecurus	Poaceae	perennial herb	May-Jul	FE	None	1B.1	Yes	1974-01-01	 © 2013 Vernon Smith
Amorpha californica var. *napensis*	Napa false indigo	Fabaceae	perennial deciduous shrub	Apr-Jul	None	None	1B.2	Yes	2001-01-01	 © 2016 John Doyen
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	1B.2	Yes	1974-01-01	 © 2011 Neal Kramer
Aphyllon robbinsii	Robbins' broomrape	Orobanchaceae	annual herb (achlorophyllous)	Apr-Jul	None	None	1B.1		2023-03-28	 © 2017 Dylan Neubauer
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	None	None	4.3	Yes	1974-01-01	 © 2011 Neal Kramer

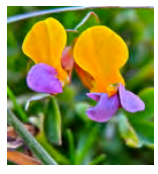
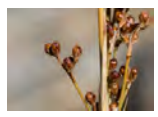
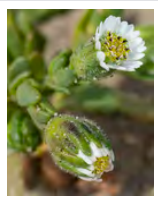
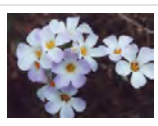
Arctostaphylos franciscana	Franciscan manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	FE	None	1B.1	Yes	1974-01-01	 © 2015 Neal Kramer
Arctostaphylos montana ssp. *montana*	Mt. Tamalpais manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	None	None	1B.3	Yes	1974-01-01	 © 2018 John Doyen
Arctostaphylos montana ssp. *ravenii*	Presidio manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	FE	CE	1B.1	Yes	1980-01-01	 © 2019 Susan McDougall
Arctostaphylos virgata	Marin manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	None	None	1B.2	Yes	1974-01-01	No Photo Available
Arenaria paludicola	marsh sandwort	Caryophyllaceae	perennial stoloniferous herb	May-Aug	FE	CE	1B.1		1984-01-01	No Photo Available
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	None	None	4.2	Yes	1994-01-01	No Photo Available
Astragalus breweri	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	None	None	4.2	Yes	1974-01-01	No Photo Available
Astragalus nuttallii var. *nuttallii*	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	None	None	4.2	Yes	2001-01-01	No Photo Available
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr-May)Jun-Oct	None	None	1B.2	Yes	2001-01-01	 ©2009 Neal Kramer
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	1B.2	Yes	1994-01-01	No Photo Available
Calamagrostis crassiglumis	Thurber's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	None	None	2B.1		1980-01-01	No Photo Available
Calamagrostis ophitidis	serpentine reed grass	Poaceae	perennial herb	Apr-Jul	None	None	4.3	Yes	1974-01-01	No Photo Available
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	None	None	4.2		1994-01-01	No Photo Available
Calochortus tiburonensis	Tiburon mariposa-lily	Liliaceae	perennial bulbiferous herb	Mar-Jun	FT	CT	1B.1	Yes	1974-01-01	No Photo Available

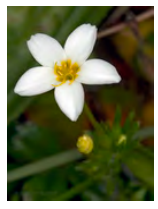
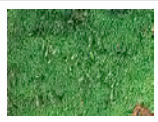
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	None	None	4.2	Yes	1980-01-01	No Photo Available
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	4.2		2010-03-04	 © 2021 Scot Loring
Calystegia collina ssp. *oxyphylla*	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	4.2	Yes	1984-01-01	No Photo Available
Calystegia purpurata ssp. *saxicola*	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	None	None	1B.2	Yes	2001-01-01	No Photo Available
Cardamine angulata	seaside bittercress	Brassicaceae	perennial herb	(Jan)Mar-Jul	None	None	2B.2		2012-04-10	 © 2021 Scot Loring
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	2B.1		1994-01-01	 Dean Wm. Taylor 1997
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	None	None	2B.2		2001-01-01	 ©2017 Steve Matson
Carex praticola	northern meadow sedge	Cyperaceae	perennial herb	May-Jul	None	None	2B.2		1984-01-01	 ©2013 Scot Loring
Castilleja affinis var. *neglecta*	Tiburon paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	FE	CT	1B.2	Yes	1974-01-01	No Photo Available
Castilleja ambigua var. *ambigua*	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	None	None	4.2		2009-02-04	 ©2011 Dylan Neubauer
Ceanothus decornutus	Nicasio ceanothus	Rhamnaceae	perennial shrub	Mar-May	None	None	1B.2	Yes	2016-06-16	 © 2014 Vernon Smith
Ceanothus gloriosus var. *exaltatus*	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	None	None	4.3	Yes	2001-01-01	 ©2018 John Doyen

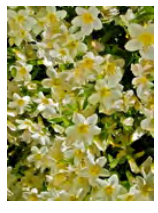
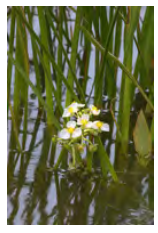
Ceanothus gloriosus var. *gloriosus*	Point Reyes ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	None	None	4.3	Yes	1974-01-01	No Photo Available
Ceanothus masonii	Mason's ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-Apr	None	CR	1B.2	Yes	1974-01-01	No Photo Available
Ceanothus pinetorum	Kern ceanothus	Rhamnaceae	perennial evergreen shrub	May-Jul	None	None	4.3	Yes	1974-01-01	 ©2017 Aaron Schusteff
Chloropyron maritimum ssp. *palustre*	Point Reyes salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	None	None	1B.2		1974-01-01	 ©2017 John Doyen
Chorizanthe cuspidata var. *cuspidata*	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	None	None	1B.2	Yes	1994-01-01	No Photo Available
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	None	None	1B.2	Yes	1974-01-01	No Photo Available
Cirsium hydrophilum var. *vaseyi*	Mt. Tamalpais thistle	Asteraceae	perennial herb	May-Aug	None	None	1B.2	Yes	1974-01-01	No Photo Available
Cistanthe maritima	seaside cistanthe	Montiaceae	annual herb	(Feb)Mar-Jun(Aug)	None	None	4.2		1980-01-01	No Photo Available
Clarkia franciscana	Presidio clarkia	Onagraceae	annual herb	May-Jul	FE	CE	1B.1	Yes	1974-01-01	No Photo Available
Collinsia corymbosa	round-headed collinsia	Plantaginaceae	annual herb	Apr-Jun	None	None	1B.2	Yes	1994-01-01	 ©2007 Steve Matson
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	None	None	1B.2	Yes	1974-01-01	No Photo Available
Collomia diversifolia	serpentine collomia	Polemoniaceae	annual herb	May-Jun	None	None	4.3	Yes	1974-01-01	 ©2019 Zoya Akulova
Cypripedium californicum	California lady's-slipper	Orchidaceae	perennial rhizomatous herb	Apr-Aug(Sep)	None	None	4.2		1980-01-01	 © 2012 Barry Rice
Dermatocarpon meiophyllizum	silverskin lichen	Verrucariaceae	foliose lichen (aquatic)		None	None	2B.3		2022-07-14	No Photo Available

Dichondra occidentalis	western dichondra	Convolvulaceae	perennial rhizomatous herb	(Jan)Mar-Jul	None	None	4.2		1974-01-01	No Photo Available
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	None	None	1B.2	Yes	1974-01-01	 © 2017 Steve Matson
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	None	None	4.3	Yes	1974-01-01	No Photo Available
Entosthodon kochii	Koch's cord moss	Funariaceae	moss		None	None	1B.3	Yes	2001-01-01	No Photo Available
Equisetum palustre	marsh horsetail	Equisetaceae	perennial rhizomatous herb	Unk	None	None	3		1994-01-01	No Photo Available
Eriogonum luteolum var. *caninum*	Tiburon buckwheat	Polygonaceae	annual herb	May-Sep	None	None	1B.2	Yes	1974-01-01	No Photo Available
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	None	None	4.2	Yes	1974-01-01	No Photo Available
Erythranthe nudata	bare monkeyflower	Phrymaceae	annual herb	May-Jun	None	None	4.3	Yes	1974-01-01	 John Doyen 2015
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		None	None	1B.2		2001-01-01	 ©2021 Scot Loring
Fritillaria lanceolata var. *tristulis*	Marin checker lily	Liliaceae	perennial bulbiferous herb	Feb-May	None	None	1B.1	Yes	1994-01-01	 © 2020 Barry Rice
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	1B.2	Yes	1974-01-01	 © 2004 Carol W. Witham
Gilia capitata ssp. *chamissonis*	blue coast gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	1B.1	Yes	2001-01-01	 © 2017 John Doyen

Gilia capitata ssp. *tomentosa*	woolly-headed gilia	Polemoniaceae	annual herb	May-Jul	None	None	1B.1	Yes	2001-01-01	 © 2008 Vernon Smith
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	1B.2		2001-01-01	 © 2017 John Doyen
Grindelia hirsutula var. *maritima*	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	None	None	3.2	Yes	1974-01-01	 Robert Potts © 2001 California Academy of Sciences
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	None	None	1B.2	Yes	1974-01-01	 © 2013 Christopher Bronny
Hemizonia congesta ssp. *congesta*	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	None	None	1B.2	Yes	1988-01-01	 © 2015 Vernon Smith
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	Apr-Jul	FT	CT	1B.1	Yes	1974-01-01	 © 2009 Neal Kramer
Heteranthera dubia	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	2B.2		2013-10-10	 ©2010 Louis-M. Landry
Holocarpha macradenia	Santa Cruz tarplant	Asteraceae	annual herb	Jun-Oct	FT	CE	1B.1	Yes	1974-01-01	 © 2011 Dylan Neubauer
Horkelia cuneata var. *sericea*	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	1B.1	Yes	1988-01-01	 © 2018 Neal Kramer

Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	None	None	1B.2	Yes	1974-01-01	 © 2017 John Doyen
Horkelia tenuiloba	thin-lobed horkelia	Rosaceae	perennial herb	May-Jul(Aug)	None	None	1B.2	Yes	1988-01-01	 © 1994 Doreen L. Smith
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	4.2		2004-01-01	 © 2015 John Doyen
Hypogymnia schizidiata	island tube lichen	Parmeliaceae	foliose lichen		None	None	1B.3		2014-03-01	No Photo Available
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	4.2	Yes	2006-10-12	 © 2014 Aaron Schusteff
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	4.2		1988-01-01	 © 2019 Belinda Lo
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	None	None	2B.3		1994-01-01	 ©2016 Vernon Smith
Layia carnosa	beach layia	Asteraceae	annual herb	Mar-Jul	FT	CE	1B.1		1988-01-01	 © 2007 Aaron Schusteff
Leptosiphon aureus	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	4.2	Yes	1994-01-01	 © 2007 Len Blumin
Leptosiphon grandiflorus	large-flowered leptosiphon	Polemoniaceae	annual herb	Apr-Aug	None	None	4.2	Yes	1994-01-01	 © 2003 Doreen L. Smith

Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	4.3	Yes	2001-01-01	 © 2015 Steve Matson
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	1B.1	Yes	2001-01-01	 © 2013 Aaron Schusteff
Lessingia germanorum	San Francisco lessingia	Asteraceae	annual herb	(Jun)Jul-Nov	FE	CE	1B.1	Yes	1980-01-01	 © 2019 Aaron Schusteff
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	3	Yes	1994-01-01	 © 2015 Aaron Schusteff
Lessingia micradenia var. *micradenia*	Tamalpais lessingia	Asteraceae	annual herb	(Jun)Jul-Oct	None	None	1B.2	Yes	1994-01-01	 © 2015 Vernon Smith
Micropus amphibolus	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	None	None	3.2	Yes	1974-01-01	 © 2008 Aaron Arthur
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	None	None	1B.2	Yes	2001-01-01	No Photo Available
Mielichhoferia elongata	elongate copper moss	Mielichhoferiaceae	moss		None	None	4.3		2001-01-01	 © 2012 John Game
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	None	None	1B.1	Yes	1994-01-01	 © 2018 Barry Rice
Navarretia rosulata	Marin County navarretia	Polemoniaceae	annual herb	May-Jul	None	None	1B.2	Yes	1980-01-01	No Photo Available
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	FE	CE	1B.1	Yes	1974-01-01	No Photo Available

Perideridia gairdneri ssp. *gairdneri*	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	None	None	4.2	Yes	1974-01-01	 ©2007 Neal Kramer
Piperia michaelii	Michael's rein orchid	Orchidaceae	perennial herb	Apr-Aug	None	None	4.2	Yes	1984-01-01	No Photo Available
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	None	None	1B.2	Yes	1984-01-01	No Photo Available
Plagiobothrys diffusus	San Francisco popcornflower	Boraginaceae	annual herb	Mar-Jun	None	CE	1B.1	Yes	1974-01-01	No Photo Available
Plagiobothrys glaber	hairless popcornflower	Boraginaceae	annual herb	Mar-May	None	None	1A	Yes	1974-01-01	No Photo Available
Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	Apr-Jun	None	CT	1B.1	Yes	1974-01-01	No Photo Available
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Feb-Mar)Apr-Aug	None	None	4.2		1974-01-01	 ©2004 Dean Wm. Taylor
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	None	None	2B.2		2008-11-03	 ©2018 John Doyen
Polygonum marinense	Marin knotweed	Polygonaceae	annual herb	(Apr)May-Aug(Oct)	None	None	3.1	Yes	1974-01-01	No Photo Available
Quercus parvula var. *tamalpaisensis*	Tamalpais oak	Fagaceae	perennial evergreen shrub	Mar-Apr	None	None	1B.3	Yes	2001-01-01	No Photo Available
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	4.2		1974-01-01	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook

Sanicula maritima	adobe sanicle	Apiaceae	perennial herb	Feb-May	None	CR	1B.1	Yes	1974-01-01	No Photo Available
Sidalcea calycosa ssp. *rhizomata*	Point Reyes checkerbloom	Malvaceae	perennial rhizomatous herb	Apr-Sep	None	None	1B.2	Yes	1994-01-01	No Photo Available
Sidalcea hickmanii ssp. *viridis*	Marin checkerbloom	Malvaceae	perennial herb	May-Jun	None	None	1B.1	Yes	1974-01-01	No Photo Available
Silene scouleri ssp. *scouleri*	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	None	None	2B.2		2017-12-13	 ©2015 Vernon Smith
Silene verecunda ssp. *verecunda*	San Francisco campion	Caryophyllaceae	perennial herb	(Feb)Mar-Jul(Aug)	None	None	1B.2	Yes	1980-01-01	No Photo Available
Spergularia macrotheca var. *longistyla*	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May	None	None	1B.2	Yes	2017-06-16	No Photo Available
Stebbinsoseris decipiens	Santa Cruz microseris	Asteraceae	annual herb	Apr-May	None	None	1B.2	Yes	1974-01-01	No Photo Available
Streptanthus batrachopus	Tamalpais jewelflower	Brassicaceae	annual herb	Apr-Jul	None	None	1B.3	Yes	1974-01-01	 © 2012 Aaron Schusteff
Streptanthus glandulosus ssp. *niger*	Tiburon jewelflower	Brassicaceae	annual herb	May-Jun	FE	CE	1B.1	Yes	1974-01-01	No Photo Available
Streptanthus glandulosus ssp. *pulchellus*	Mt. Tamalpais bristly jewelflower	Brassicaceae	annual herb	May-Jul(Aug)	None	None	1B.2	Yes	1980-01-01	No Photo Available
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	1B.2	Yes	1974-01-01	No Photo Available
Toxicoscordion fontanum	marsh zigadenus	Melanthiaceae	perennial bulbiferous herb	Apr-Jul	None	None	4.2	Yes	2001-01-01	No Photo Available
Trifolium amoenum	two-fork clover	Fabaceae	annual herb	Apr-Jun	FE	None	1B.1	Yes	1974-01-01	No Photo Available
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	1B.2	Yes	2001-01-01	 © 2005 Dean Wm Taylor

Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	None	None	1B.2	Yes	1974-01-01	No Photo Available
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		None	None	1B.2		2001-01-01	No Photo Available

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