

State Route 1 Culvert Replacement Project



Initial Study with Mitigated Negative Declaration

MARIN COUNTY, CALIFORNIA
DISTRICT 4 – MRN –1 (PM 40.3)
04-2J510/0414000524

Prepared by the
California Department of Transportation

June 2023



General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Mitigated Negative Declaration (IS/MND) for the State Route (SR) 1 Culvert Replacement Project (Project). Caltrans proposes to remove, replace, and extend the culvert at Post Mile (PM) 40.3 on SR 1 in Marin County, California. The Project would also include constructing two wingwalls, removing and installing rock slope protection, excavating the slipout and rebuilding the slope, removing and replacing the structural section of highway, and installing the temporary creek diversion system. Additional Project information is provided in Chapter 2.

As the lead agency under the California Environmental Quality Act (CEQA), Caltrans has prepared this IS/MND, which describes why the Project is being proposed; how the existing environment could be affected by the Project; potential environmental impacts; and the Project features, avoidance and minimization measures, and mitigation measures.

The IS/MND was circulated to the public for 45 days beginning on November 21, 2022, and ending on January 5, 2023. One comment was received during the public comment period and the response is included in Appendix F. Throughout this document, a vertical line in the margin indicates changes made since the IS/MND was circulated for public review. Minor editorial changes and clarifications have not been indicated.

If the Project funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative formats:

For individuals with sensory disabilities, the document can be made available in Braille, in large print, on audiocassette, or on computer disk by writing to the Caltrans District 4 mailing or email address or by calling **California Relay Service** at **(800) 735-2929 (TTY), (800) 735-2922 (Voice), or 711.**

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Initial Study with Mitigated Negative Declaration

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DIST. – CO. – RTE.

PM

EA

Project title:	State Route 1 Culvert Replacement Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
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Project location:	Marin County, California
General plan description:	Highway
Zoning:	Transportation Corridor
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements)	California Coastal Commission California Department of Fish and Wildlife California Transportation Commission San Francisco Bay Regional Water Quality Control Board U.S. Army Corps of Engineers U.S. Fish and Wildlife Service

This document, maps, Project information, and supporting technical studies are available for review weekdays from 8:00 a.m. to 5:00 p.m. at the Caltrans District 4 Office, 111 Grand Avenue, Oakland, CA 94612. The document is also available to download at the [District 4 Environmental Documents by County](https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs) website (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>).

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06/27/2023

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Mitigated Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study with Mitigated Negative Declaration (IS/MND) for the State Route (SR) 1 Culvert Replacement Project (Project). The Project would remove, replace, and extend the culvert at Post Mile (PM) 40.3 on SR 1 in Marin County, California. The Project would also include constructing two wingwalls, removing and installing rock slope protection, excavating the slipout and rebuilding the slope, removing and replacing the structural section of highway, and installing the temporary creek diversion system. Additional Project information is provided in Chapter 2.

Determination

Caltrans has prepared an IS for this Project and, following public review, Caltrans has determined from this study that the Project would not have a significant effect on the environment for the following reasons:

- The Project would have no impact on aesthetics, agriculture and forest resources, mineral resources, population and housing, and recreation.
- The Project would have less-than-significant impacts on air quality, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, utilities and service systems, transportation, tribal cultural resources, and wildfire.

With the implementation of the following mitigation measures, the Project would have a less than significant impact on biological resources:

- **MM-BIO-1: Impacts to Environmentally Sensitive Habitat Areas.** Temporary impacts to environmentally sensitive habitat areas (ESHAs) (i.e., riparian and upland California red-legged frog habitat) will be mitigated at a ratio of 1:1. Permanent impacts to ESHAs and aquatic resources will be mitigated at ratios of 3:1 and 4:1, respectively. Impacts to ESHAs, mitigation ratios, and mitigation monitoring will be confirmed with the appropriate agencies during the permitting process.
- **MM-BIO-2: Tree Replacement.** Two arroyo willow (*Salix lasiolepis*) trees will be removed and replaced at a ratio of 3:1. Appropriate replacement locations will

be determined during the permitting process and in consultation with the appropriate agencies.

- **MM-BIO-3: Impacts to Waters.** Approximately 0.07 acre of potentially jurisdictional estuarine intertidal waters and less than approximately 0.01 acre of potentially jurisdictional other waters would be temporarily impacted by the installation of the temporary creek diversion system. The temporarily impacted areas will be restored to mitigate impacts to habitat functionality. Approximately 0.01 acre of potentially jurisdictional estuarine intertidal waters would be permanently impacted by the installation of the rock slope protection (RSP). In addition, less than 0.01 acre of potentially jurisdictional other waters would be permanently impacted by the construction of the two wingwalls. Temporary and permanent impacts will be mitigated at a ratio of at least 1:1. Impacts to waters, mitigation ratios, and mitigation monitoring will be confirmed with the appropriate agencies during the permitting process.



Christopher Caputo
Acting Deputy District Director
Environmental Planning and Engineering
California Department of Transportation, District 4

June 27, 2023

Date

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List of Abbreviated Terms

Abbreviation	Definition
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ADI	area of direct impact
AMM	avoidance and minimization measure
APE	area of potential effects
APN	Assessor's Parcel Number
BIO	biological resources
BMP	best management practice
BSA	Biological Study Area
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCA	California Coastal Act
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH ₄	methane
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO ₂	carbon dioxide
CRLF	California red-legged frog
CWA	Clean Water Act
dBA	A-weighted decibel
DO	Emergency Director's Order

Abbreviation	Definition
DPS	Distinct Population Segment
DSA	disturbed soil area
EA	Expenditure Authorization
EFH	Essential Fish Habitat
ESA	environmentally sensitive area
ESHA	environmentally sensitive habitat area
FEMA	Federal Emergency Management Agency
FIGR	Federated Indians of Graton Rancheria
GHG	greenhouse gas
IS/MND	Initial Study with Proposed Mitigated Negative Declaration
L _{max}	maximum sound level
MBGR	metal beam guardrail
MGS	Midwest Guardrail System
MLD	Most Likely Descendent
MM	mitigation measure
MRZ	Mineral Resource Zone
MSB	Myrtle's silverspot butterfly
MTC	Metropolitan Transportation Commission
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NES	Natural Environment Study
NESMI	Natural Environment Study Minimal Impact
NIS	new impervious surface
NNI	new impervious surface
NPDES	National Pollutant Discharge Elimination System
NOAA Fisheries	National Oceanographic and Atmospheric Administration Fisheries Service

Abbreviation	Definition
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
OCRS	Office of Cultural Resource Studies
PCB	dioxin-like polychlorinated biphenyls congener
PDE	permanent drainage easement
PF	Project feature
PG&E	Pacific Gas and Electric Company
PLACs	permits, licenses, agreements, or certifications
PM	post mile
PM _{2.5}	particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers
PM ₁₀	particulate matter with aerodynamic diameter equal to or less than 10 micrometers
Project	State Route 1 Culvert Replacement Project
PQS	Professionally Qualified Staff
PS&E	plans, specifications, and estimates
ROW	right of way
RSP	rock slope protection
RWQCB	San Francisco Bay Regional Water Quality Control Board
Section 106	Section 106 of the National Historic Preservation Act
SHOPP	State Highway Operation and Protection Program
SLC	Sacred Lands File
SR	State Route
SRA	State Responsibility Area
SSC	species of special concern
ssp.	subspecies
SSP	standard special provision

Abbreviation	Definition
SWHA	Swainson's hawk
SWRCB	State Water Resources Control Board
TCDS	temporary creek diversion system
TCE	temporary construction easement
TMDL	Total Maximum Daily Load
TMP	Traffic Management Plan
THPO	Tribal Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
WEAT	worker environmental awareness training
WEF	wildlife exclusion fencing
WPCP	Water Pollution Control Program
XPI	Extended Phase 1

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA) for the State Route (SR) 1 Culvert Replacement Project (Project) and has prepared this Initial Study with Mitigated Negative Declaration (IS/MND). The Project is located on SR 1 at Post Mile (PM) 40.3, approximately 0.10 mile south of Clark Road, near the unincorporated community of Marshall, in Marin County, California (Figures 1-1 and 1-2 in Appendix A). The approximately 0.2-mile stretch along SR 1 between the culvert and staging area is referred to herein as the “Project corridor.”

The Project would remove, replace, and extend the culvert, construct two wingwalls, remove and install rock slope protection (RSP), excavate the slipout and rebuild the slope west of the southbound lane to the north of the culvert, remove and replace the structural section of highway, and install the temporary creek diversion system (TCDS) (Figure 1-3, Appendix A).

The Project would be funded by the State Highway Operation and Protection Program (SHOPP) under Program Code 201.151 (Drainage System Restoration) for the 2023/2024 construction fiscal year. The SHOPP Program is California’s “fix-it-first” program, which funds the repair and preservation of the State Highway System, safety improvements, and some highway operational improvements. The Project total cost estimate, including capital and support costs, is approximately \$7,550,000.

1.2 Purpose and Need

The purpose of the Project is to remove, replace, and extend the culvert and rebuild the adjacent slope, thereby restoring the functionality of the drainage system and preventing further damage to SR 1.

The Project is needed due to storm damage and the effects of the corrosive marine environment on the culvert (i.e., the slipout and culvert failure). The north and south sides of the culvert west of the southbound lane of SR 1 have rusted out due to the corrosive marine environment at Tomales Bay; during times of high-water volume, water flows out of the rusted holes, thereby decreasing the functionality of the drainage system. In addition, the embankment north of the culvert outfall has eroded away, thereby causing a slipout extending to the edge of the southbound lane of SR 1.

The embankment south of the culvert outfall is undamaged due to the presence of RSP. Therefore, the culvert needs to be removed, replaced, and extended, and the slope needs to be rebuilt to restore the functionality of the drainage system, and the cracking on the structural section of highway resulting from the slipout also needs to be repaired. SR 1 is an important connector between Tomales Petaluma Road to the north and Marshall Petaluma Road to the south for the residents and businesses of unincorporated Marin County, and is the only direct connector between the Town of Tomales to the north and the Town of Point Reyes Station to the south. If not addressed, the failed culvert and slipout have the potential to affect the safety of the traveling public.

1.3 Existing Conditions

Within the Project corridor, SR 1 is a two-lane undivided highway bordered by agricultural, open space, and rural residential land uses; the travel lanes are approximately 9 feet wide with no shoulders and no designated pedestrian or bicycle facilities. The culvert length and diameter are approximately 50 feet and 60 inches, respectively. RSP approximately 6 feet long, 10 feet wide, and 3 feet deep is installed on the embankment south of the culvert outfall, and the slipout north of the outfall is approximately 10 feet wide and 10 feet tall. The structural section of highway is made of asphalt concrete with a variable aggregate base. Table 1-1 summarizes the existing conditions.

Table 1-1. Existing Conditions

Lane Width (feet)	Shoulder Width (inches)	Culvert Length (feet)	Culvert Diameter (inches)	Culvert Type	RSP Location	Slipout Dimensions (feet)	Highway Structural Section Material and Dimensions (feet)
9	0	50	60	CMP	West of SB lane, south of the culvert outfall	10 wide and 10 tall	18 long, 15 wide, and 10 deep of asphalt concrete with a variable aggregate base.

Notes:

CMP = corrugated metal pipe
RSP = rock slope protection
SB = southbound

1.4 Emergency Work

Severe damage was sustained at the Project site during the 2022-2023 winter storm season; the culvert suffered additional deterioration, resulting in erosion of the embankment, undermining the highway and leading to further pavement failure. As a result, an Emergency Director's Order (DO) (Expenditure Authorization [EA] 04-3Y230) was issued which authorized emergency work to be performed prior to the construction of this Project. On March 23, 2023, a temporary culvert sleeve approximately 10 feet long was installed over the culvert outlet, and temporary rock slope protection (RSP) was placed at the outfall of the culvert on the Tomales Bay side to stabilize the slope and highway embankment. Additional work planned for this location will be completed outside the Director's Order, under this Project and includes the scope of work outlined in Chapter 2.

1.5 Title VI

Caltrans is a recipient of Federal Highway Administration federal-aid highway funds. Recipients of federal funds are required to comply with various non-discrimination laws and regulations, including Title VI of the Civil Rights Act of 1964 (Title VI). Title VI forbids discrimination against anyone in the United States on the basis of race, color, or national origin, in the programs and activities of an agency receiving federal financial assistance. Caltrans' commitment to upholding the mandates of Title VI is summarized in the Non-Discrimination Policy Statement (Appendix B).

Chapter 2 Project Description

2.1 Introduction

Caltrans proposes to remove, replace, and extend the culvert at PM 40.3 on SR 1 in Marin County. The Project would also include constructing two wingwalls, removing and installing RSP, excavating the slipout and rebuilding the slope, removing and replacing the structural section of highway, and installing the TCDS. The Project footprint encompasses the maximum extent of construction-related activities, including ground disturbance and staging areas, and is approximately 0.42 acre.

2.2 Project Components

This section discusses Project components that would be constructed as part of the Project. Figure 1-3 in Appendix A shows the Project components and Table 2-1 summarizes the proposed post-Project conditions.

Table 2-1. Proposed Conditions

Culvert Length (feet)	Culvert Diameter (inches)	Culvert Type	Wingwalls Dimensions (feet)	RSP Location	RSP Dimensions (feet)	Highway Structural Section Material and Dimensions (feet)
53	60	APC	10 to 20 long, 8 wide, and 10 tall	West of SB lane, north, south, and west of the culvert outfall	26 long, 15 wide, and 3 deep	18 long, 15 wide, and 10 deep of asphalt concrete with minor concrete on top of the trench backfill

Notes:

APC = alternative pipe culvert

RSP = Rock Slope Protection

SB = southbound

2.2.1 Remove, Replace, and Extend Culvert

The Project would remove, replace, and extend the culvert west of the southbound lane of SR 1. The culvert length, diameter, and type would be approximately 53 feet, 60 inches, and alternative pipe culvert, respectively. The design would be finalized during the plans, specifications, and estimates (PS&E) phase.

2.2.2 Construct Wingwalls

The Project would construct two wingwalls, which may require excavation up to approximately 15 feet below ground surface, east of the northbound lane of SR 1. The wingwalls would be between approximately 10 and 20 feet long, 1 foot wide, and 10

feet tall. If fall protection at the wingwall is needed, the use of alternative fall protection using tie-off cables is anticipated, although a cable railing installed along the top of the wingwalls may be required; the design would be finalized during the PS&E phase.

2.2.3 Remove and Install Rock Slope Protection

The RSP on the embankment, located north and south of the culvert outfall would be removed; earthwork would occur as discussed in Section 2.2.4; and RSP would be installed at the outfall of the culvert west of the southbound lane of SR 1, within Tomales Bay, in order to dissipate energy from the culvert flows. The removal of RSP would also include the RSP that was installed as part of the DO. The RSP would consist of a layer of rock approximately 26 feet long, 15 feet wide, and 3 feet deep (approximately 1.9 feet below the mean high water mark of approximately 4.9 feet) to stabilize and minimize the potential erosion of the outfall location. The rocks would range in weight from approximately 20 pounds to 1/4 ton; the design would be finalized during the PS&E phase.

2.2.4 Excavate Slipout and Rebuild Slope

The Project would excavate the slipout (i.e., loose sediment) and stockpile the loose sediment for reuse onsite. The slope would be rebuilt to a depth of approximately 10 feet below ground surface at a ratio of 2:1 (horizontal: vertical) with the loose sediment and approximately 100 cubic yards of imported borrow material. Gravel, coconut coir matting, tackifying hydroseeding compounds, and/or engineered streambed material would be installed to protect the rebuilt slope. The design would be finalized during the PS&E phase.

2.2.5 Remove and Replace Structural Section

The Project would remove and replace a structural section of the highway measuring approximately 18 feet long, 15 feet wide, and 10 feet below ground surface as discussed in Section 2.3 to accommodate removing, replacing, and extending the culvert. The structural section would be made of asphalt concrete with minor concrete on top of the trench backfill.

2.2.6 Install Temporary Creek Diversion System

The Project is anticipated to require the installation of a TCDS to convey water through the Project footprint during construction. TCDS design options may include, but are not limited to, the following:

- Gravel bag berm east of the northbound, and west of the southbound, lane of SR 1

- Gravel bag berm east of the northbound lane, and aqua dam west of the southbound lane of SR 1
- Gravel bag berm east of the northbound lane, and sheet pile west of the southbound lane of SR 1

Prior to installing the TCDS conduit (i.e., plastic pipe), a pump would be temporarily placed east of the northbound lane of SR 1 to manage existing water within the unnamed stream. The strategy would be recommended during the PS&E phase and in consultation with the appropriate agencies. The contractor would prepare the TCDS design, which would be reviewed and approved by Caltrans prior to removing, replacing, and extending the culvert to ensure adherence with specific design criteria.

2.3 Construction Methodology

This section discusses the anticipated methodology for Project construction staging, schedule, and equipment, as well as utilities and right of way (ROW).

2.3.1 Construction Staging

Prior to the beginning of ground-disturbing activities, which would occur in both previously disturbed and undisturbed areas, construction area signs, environmentally sensitive area (ESA) fencing, and best management practices (BMPs) would be installed. ESA fencing would delineate the limits of the work area and protect vegetation and trees outside the work area from construction-related activities. A TCDS pump would be placed east of the northbound lane of SR 1, and with the exception of the TCDS conduit (i.e., plastic pipe) being installed within the culvert to be removed as discussed in the following paragraph, the TCDS would be installed east of the northbound lane, and west of the southbound lane of SR 1, as discussed in Section 2.2.6.

The Project is anticipated to be constructed in three stages. The first stage would include closing both lanes of SR 1 for approximately three nights of nightwork (while both lanes would remain open to vehicular traffic during daytime). Staging areas would be established within the closed lanes, as well as within the motor vehicle pull-out located west of the southbound lane of SR 1 at PM 40.1, for the storage of construction equipment and materials. During this stage, the structural section of highway would be removed, a trench approximately 10 feet wide (up to approximately 5 feet on either side of the centerline of the culvert to be removed) would be dug to a depth of approximately 10 feet below ground surface, the TCDS

conduit would be installed within the culvert to be removed, and the new extended culvert would be installed adjacent to the culvert to be removed. The TCDS conduit would then be temporarily removed; the existing culvert would be removed; the TCDS conduit would be reinstalled in the trench adjacent to the new extended culvert; the trench would be backfilled with slurry cement, controlled low-strength material backfill, or rapid strength concrete; and the structural section of highway would be replaced.

The second stage, involving off-pavement work, would include using flaggers at either end of the Project corridor to implement one-way alternating traffic control (i.e., to keep one lane of SR 1 open to the traveling public in alternating directions and the other lane closed for staging and construction-related activities), installing temporary barrier systems and temporary crash cushions along the centerline of SR 1 to separate the open and closed lanes, establishing a staging area within the lane closed to traffic (i.e., within Caltrans ROW) for the storage of construction equipment and materials, and applying temporary restriping. One-way alternating traffic control would maintain the use of SR 1 for the traveling public through the work area using the lane opposite the lane where off-pavement work would occur. Off-pavement work would occur one lane at a time. Off-pavement work east of the northbound lane of SR 1 would include clearing and grubbing vegetation and removing trees as discussed in Section 3.3.17 and constructing two wingwalls. Off-pavement work west of the southbound lane of SR 1 would include clearing and grubbing vegetation, relocating the utility pole as discussed in Section 3.3.19 (if required), removing the RSP at the culvert outfall, excavating the slipout, rebuilding the slope, and installing RSP.

The third stage would include replacing vegetation and trees; installing permanent erosion control BMPs; and removing construction area signs, ESA fencing, temporary erosion control BMPs, and the TCDS. The TCDS conduit may be cut, capped, or abandoned under the structural section of highway to be placed over the replacement culvert. The removal of the TCDS would require closing both lanes of SR 1 for approximately one night. The third stage would also include restriping, removing temporary barrier systems and temporary crash cushions along the centerline of SR 1, and reopening the closed lane to the traveling public.

2.3.2 Construction Schedule

Ground-disturbing activities within the unnamed stream and Tomales Bay would be restricted to the dry season.

Construction is anticipated to take approximately 2.5 months, or 1 construction season, to complete. The Project is anticipated to require approximately 55 working days (excluding vegetation and tree removal/replacement and utility relocations) and occur between June 2025 and October 2025.

Construction is anticipated to require four nights of nightwork closing both lanes of SR 1; establish staging areas; remove the structural section of highway; digging the trench on either side of the centerline of the culvert to be removed; install the TCDS conduit; remove, replace, and extend the culvert; backfill the trench with slurry cement, controlled low-strength material backfill, or rapid strength concrete; and replacing the structural section of highway. Otherwise, construction-related activities would be limited to daytime hours.

2.3.3 Construction Equipment

Construction equipment may include, but would not be limited to, a utility truck, water truck, concrete truck, dump truck, street sweeper, flatbed, jackhammer, pavement cutter, saw cutting machine, backhoe, excavator, skip loader, roller, paver, crane, grinder, and portable power generator.

2.3.4 Utilities

The Project is anticipated to require utility relocations (e.g., electric and/or telephone lines) as discussed in Section 3.3.19. Utility verification (i.e., potholing) would occur during the PS&E phase to confirm the need for utility relocations, and if needed, utility relocations would occur prior to the beginning of construction and in consultation with utility providers (e.g., Pacific Gas and Electric Company [PG&E], AT&T, and Verizon).

2.3.5 Right of Way

Construction-related activities, including staging, would occur both within and outside of Caltrans ROW. The Project would require ROW acquisitions for the purposes of temporary construction easements (TCEs) and permanent drainage easements (PDEs) for construction-related activities (e.g., remove and install RSP, excavate slipout and rebuild slope, and install TCDS) occurring outside Caltrans ROW. The Project would require two TCEs and one PDE to conduct construction-related activities outside the Caltrans ROW. The Project is anticipated to acquire an approximately 0.04-acre TCE located within Marin County assessor parcel number (APN) 104-130-47 east of the northbound lane of SR 1, as well as an approximately 0.10-acre TCE and an approximately 0.02-acre PDE located within Marin County

APN 104-220-07 west of the southbound lane of SR 1. TCEs and PDEs would be finalized during the PS&E phase.

2.4 No Build Alternative

The no build alternative would not address the purpose and need of the Project. If no action was taken, the existing culvert and slipout would continue to fail and have the potential to affect the safety of the traveling public.

2.5 Permits, Licenses, Agreements, Certifications, and Approvals Required

The Project is anticipated to require the permits, licenses, agreements, certifications, and/or approvals summarized in Table 2-2.

Table 2-2. Permits, Licenses, Agreements, Certifications, and Approvals Required

Agency	Permits, Licenses, Agreements, Certifications, and/or Approval	Status
California Coastal Commission	Coastal Development Permit	Application to be submitted during the PS&E phase
California Department of Fish and Wildlife	Section 1602 Lake and Streambed Alteration Agreement	Application to be submitted during the PS&E phase
California Transportation Commission	Financial Approval	Application to be submitted prior to the beginning of construction
San Francisco Bay Regional Water Quality Control Board	Section 401 Water Quality Certification	Application to be submitted during the PS&E phase
U.S. Army Corps of Engineers	Section 404 Nationwide Permit	Application to be submitted during the PS&E phase
U.S. Fish and Wildlife Service	Biological Opinion	Received December 12, 2022

Chapter 3 California Environmental Quality Act Evaluation

The following discussions evaluate potential environmental impacts of the Project related to the CEQA checklist to comply with state CEQA Guidelines (Title 14 California Code of Regulations Division 6, Chapter 3, Section 15091).

3.1 Environmental Factors Potentially Affected

As part of the scoping and environmental analysis carried out for the Project, the following environmental factors were considered, but no impacts were identified: aesthetics, agriculture and forest resources, mineral resources, population and housing, and recreation. The environmental factors marked with an “X” would be potentially impacted by the Project. Further analysis of these environmental factors is discussed in the subsections that follow.

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

3.2 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.	
X	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
	I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 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.	
Signature:		Date:
<i>Maxwell Lammert</i>		06/27/2023
Printed Name: Maxwell Lammert		For:

3.3 CEQA Environmental Checklist

This section identifies physical, biological, social, and economic factors that might be affected by the Project. In many cases, background studies performed in connection with projects will indicate that there are no impacts to a particular resource. A “No Impact” answer in the last column of the impact summary tables at the beginning of each resource category subsection reflects this determination. The words "significant" and "significance" used throughout this section are related to CEQA, not National Environmental Policy Act, impacts. The questions posed in the impact summary tables are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features (PFs) are measures incorporated into Caltrans projects to reduce environmental impacts that can include both design components of the Project and standardized measures that are applied to all, or most of, Caltrans projects, such as BMPs and measures included in the Caltrans Standard Plans and Standard Specifications or as Standard Special Provisions, and are an integral part of the Project. Avoidance and minimization measures (AMMs) are additional measures to avoid and/or minimize a project’s environmental impacts but are more specifically tailored to a given project’s particular impacts. The PFs and AMMs presented in this section have been considered prior to any significance determinations documented in this section; refer to Sections 3.3.1 through 3.3.20 and Appendix C for a detailed discussion and summary, respectively, of these PFs and AMMs.

Sections 3.3.1 through 3.3.20 present the CEQA determinations under Appendix G of the CEQA Guidelines. The CEQA determinations depend on the level of potential environmental impact that would result from the Project. The level of significance determinations is defined as follows:

- **No Impact:** Indicates no physical environmental change from existing conditions.
- **Less Than Significant Impact:** Indicates the potential for an environmental impact that is not significant with or without the implementation of AMMs.
- **Less Than Significant Impact with Mitigation Incorporated:** Indicates the potential for a significant environmental impact that would be mitigated with the implementation of mitigation measures (MMs) to a level of less than significant.
- **Potentially Significant Impact:** Indicates the potential for a significant and unavoidable environmental impact.

3.3.1 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?	Less Than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less Than Significant 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?	Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR AESTHETICS

SR 1 in Marin County is listed as eligible for designation as a State Scenic Highway, from the intersection of SR 1 and U.S. 101 in Marin City at the southern end (PM 0.0) to the intersection of SR 1 and U.S. 101 in Leggett at the northern end in Mendocino County (PM 105.6) (Caltrans 2022d). The Project, located at PM 40.3, is within the eligible State Scenic Highway segment.

SR 1 within the Project corridor is a two-lane undivided highway that runs north/south, fronting the east shore of Tomales Bay. SR 1 is generally a two-lane rural conventional highway that provides the only link to a number of small coastal communities in Marin County and is critical for access of emergency services. SR 1 is also a major tourist and recreational travel route and is a part of the Pacific Coast Bicycle Route that runs parallel to, or is part of, the California Coastal Trail.

The Project is subject to the provisions of the Final Marin State Route 1 Repair Guidelines (Guidelines; Caltrans 2015). These Guidelines were produced by Caltrans with local, state and federal agencies and other collaborating stakeholders. The Guidelines stress the value and importance of the use of specific design features for inclusion in highway projects along Marin SR 1. These include the use of design features that contribute to visual consistency and continuity, and constructed features that are visually appropriate to the regional area. The Project will be designed to comply with the Guidelines (Table 3-3, Land Use and Planning). Additionally, the Project would comply with Director’s Policy (DP) 22 “Context Sensitive Solutions” (Caltrans 2001). The solutions set forth in DP 22 use innovative and inclusive

approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Further, the Guidelines and DP 22 encourage the use of project components often not included on highway construction projects elsewhere, including nonstandard design features requiring special approval. These design features reflect the recognition of the importance of the visual quality of the highway and are reflected in the early-stage design of the Project. Context-sensitive Project components would be finalized in the Project design phase and in consultation with applicable agencies.

A Scenic Resource Evaluation and Visual Impact Assessment was prepared by the Caltrans Office of Landscape Architecture (Caltrans 2021e). A summary of the findings is presented here.

a, b, c, and d) Less Than Significant Impact

The Project would not adversely affect scenic vistas, visual quality, or visual character, or result in a substantial increase in light or glare. The Project would not adversely affect any “Designated Scenic Resource” as defined by CEQA statutes or guidelines, or by Caltrans policy. The Project would not conflict with applicable zoning and other regulations governing scenic quality. The impact would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following PFs into the Project to reduce potential impacts to visual resources:

- **PF-AES-1, Construction Equipment and Materials Storage:** Store, and cover where possible, construction equipment and materials in screened staging areas beyond the direct view of the traveling public and adjacent rural residential properties to the extent feasible.
- **PF-AES-2, Nightwork:** For nightwork, limit construction lighting to the Project footprint for construction-related activities, and use directional lighting, shielding, and other measures as needed to reduce light trespass to the traveling public and to adjacent rural residences.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMM to avoid or minimize potential impacts to visual resources:

- **AMM-AES-1, Removal of Trees and Vegetation and Revegetation of Disturbed Areas:** Tree and vegetation removal would be minimized to the extent feasible. Temporary exclusion fencing would be used to protect the trees and vegetation outside of clearing and grubbing limits from construction-related activities. Disturbed areas would be restored and treated with erosion control and revegetated with locally appropriate, commercially available native seed species.

- **AMM-AES-2, Compliance with Project Design Features included in the Final Marin SR 1 Repair Guidelines:** The Project design process will include compliance with the Final Marin SR 1 Repair Guidelines including the following:
 - Soil-fill and vegetate RSP to the maximum extent practicable, except in areas of concentrated flow or where subject to tidal influences/high tides. RSP will be brown in color (such as napa valley basalt) or stained brown..
 - Exposed portions of drainages will be colored brown, such as culvert pipes, flared end sections, and other exposed areas. Concrete drainages will also be aesthetically treated; final details will be determined during the Project design phase.
 - Round all slopes to provide natural looking contours.
 - If guardrails are used, exclude vegetation control concrete.
 - Use locally appropriate, commercially available native seed species to revegetate areas disturbed by the Project.
 - Camouflage the high-density polyethylene pipe with salvaged existing culvert sections or equivalent brown-color culvert section. Other exposed piping should be brown. Final details will be determined during the Project design phase.

3.3.2 Agriculture and Forest 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

CEQA SIGNIFICANCE DETERMINATIONS FOR AGRICULTURE AND FOREST RESOURCES

The Project is located within an area designated as Other Land (California Department of Conservation 2016 and 2019). The Project footprint is not located within farmland, forestland, or timberland. While there are no Williamson Act contracts within the Project footprint, Marin County APN 104-130-47 east of the northbound lane of SR 1 is zoned as an Agriculture Production Zone, designated as Farmland of Local Importance, and located within a Marin Agricultural Land Trust (MALT) agricultural conservation easement.

a, b, c, d, and e) No Impact

The Project would not affect agricultural land and would not convert Farmland to a non-agricultural use, nor would it affect areas under a Williamson Act contract. The Project would not conflict with existing zoning for forest land or timberland, or convert forest land to non-forest use land, as there are no forest lands or timberlands

within the Project footprint. The Project would not involve other changes in the existing environment that would result in conversion of forest or agricultural land. Although construction-related activities would occur outside of Caltrans ROW, the Project would not affect agriculture or forest resources; therefore, there would be no impact.

3.3.3 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

CEQA SIGNIFICANCE DETERMINATIONS FOR AIR QUALITY

The Project is located in Marin County within the San Francisco Bay Area Air Basin under the jurisdiction of the Bay Area Air Quality Management District. Marin County is designated as in nonattainment for ozone and particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers (PM_{2.5}) under federal air quality standards (USEPA 2022), and in nonattainment for ozone, PM_{2.5}, and particulate matter with aerodynamic diameter equal to or less than 10 micrometers (PM₁₀) under California state air quality standards (CARB 2019). It is in attainment or unclassified for other federal and state air quality standards.

a) No Impact

The Project would not increase SR 1 transportation capacity and therefore would not result in a degradation of air quality. Although the Project would have temporary construction emissions, construction-related activities would comply with state regulations and policies. Emission reduction measures would be implemented to reduce construction emissions. The Project would not affect vehicle operation on SR 1 or nearby roadways when construction is complete. Long-term emission increases and adverse impacts from the Project are not anticipated. Therefore, the Project would not conflict with the region’s air quality plan. There would be no impact.

b, c, and d) Less Than Significant Impact

Replacing the culvert and rebuilding the slope would not alter characteristics of SR 1, increase SR 1 transportation capacity, or change the horizontal or vertical alignments of SR 1. No long-term air quality impacts would occur.

Construction-generated air pollutants are expected to be short-term. Construction-generated air pollutants include emissions resulting from onsite construction equipment, workers commuting to and from the Project, and traffic delays/detours due to construction. The emissions would be produced at different rates throughout the Project, depending on the construction-related activities occurring in the three phases of construction. Potential impacts to air quality, including emissions of air pollutants, odors affecting nearby sensitive receptors, and exposure of sensitive receptors to pollutants, would be less than significant based on the temporary nature of construction-related activities.

During construction, the Project would comply with Caltrans Standard Specification 14-9, Air Quality, which requires compliance with applicable air-pollution control rules, regulations, ordinances, and statutes

The Project would have no long-term impacts on air quality and temporary construction-related impacts would be less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs into the Project to reduce potential impacts to air quality:

- **PF-AQ-1, Dust Control Measures:** Implement dust control measures to reduce airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 1 and other public roadways affected by construction traffic, and covering soils or materials and/or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.
- **PF-AQ-2, Construction Vehicles and Equipment:** Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.

- **PF-AQ-3, Limit Idling:** Limit idling times either by shutting construction equipment off when not in use or reducing the maximum idling time to 5 minutes.

3.3.4 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 NOAA Fisheries?	Less Than Significant Impact
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 with Mitigation Incorporated
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 with Mitigation Incorporated
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?	No 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

CEQA SIGNIFICANCE DETERMINATIONS FOR BIOLOGICAL RESOURCES

A Natural Environmental Study (NES) was prepared by the Caltrans Office of Biological Sciences and Permits to evaluate the effects of the Project on biological resources, including sensitive plants and wildlife species (Caltrans 2022c). A summary of the findings is presented here.

The Biological Study Area (BSA), which is defined as the entire area of potential direct and indirect Project impacts, is the same as the approximately 0.27-acre Project footprint. The BSA contains portions of the highway prism, potential waters of the U.S., and the following vegetation types: *Toxicodendron diversilobum* – *Baccharis pilularis* shrubland alliance, *Salix lasiolepis* shrubland alliance, California annual and perennial grassland, *Sarcocornia Pacifica* herbaceous alliance, *Carpobrotus* ssp. herbaceous semi-natural alliance, *Rubus armeniacus* shrubland semi-natural alliance, *Distichlis spicata* herbaceous alliance, *Hesperocyparis macrocarpa* woodland special stands, and ruderal vegetation.

Areas outside of the BSA, but adjacent to the Project footprint, were also assessed using literature, aerial images, satellite imagery, and database searches to identify potential wildlife dispersal corridors.

A regional list of special-status wildlife and plant species was compiled using databases to evaluate the potential impacts that could occur to sensitive biological resources as a result of the Project. The database search included the California Natural Diversity Database (CNDDDB) (CDFW 2022), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation Database (USFWS 2022), the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2022), and the National Oceanographic and Atmospheric Administration Fisheries Service (NOAA Fisheries) database (NOAA Fisheries 2022). The special-status wildlife and plant species on the regional lists were evaluated to determine their potential to occur within the BSA.

Various field studies were conducted within the BSA to assess existing natural resources. Field studies used in the preparation of the NES include:

- Biological reconnaissance-level survey and habitat assessment
- Aquatic resource delineation
- Vegetation characterization and rare plant habitat assessment and tree survey

a) Less Than Significant Impact

With implementation of PF-BIO-2 through PF-BIO-11, PF-HYD-1, and AMM-BIO-1 through AMM-BIO-9, the Project would have a less than significant impact, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW), USFWS, or NOAA Fisheries.

Special-status species that are potentially present within or adjacent to the BSA are discussed here.

Plants

The potential for special-status plant species to occur in the BSA was assessed based on the vegetation types present, the degree of disturbance, the results of the database queries, and whether suitable habitat for each special-status plant species was observed within the BSA. No special-status plants were observed in the BSA.

However, protocol-level surveys were not conducted and suitable habitat for the following special-status plant species was determined to be present in the BSA: bent-flowered fiddleneck (*Amsinckia lunaris*, List 1B.2), swamp harebell (*Campanula californica*, List 1B.2), Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humboldtensis*, List 1B.2), Point Reyes salty bird's-beak (*Chloropyron maritimum* ssp. *palustre*, List 1B.2), Point Reyes horkelia (*Horkelia marinensis*, List 1B.2), harlequin lotus (*Hosackia gracilis*, List 4.2), and San Francisco owl's clover (*Triphysaria floribunda*, List 1B.2).

Protocol-level surveys in areas where natural vegetation is present within the BSA will be conducted in accordance with special-status plant survey protocols (CDFW 2018; USFWS 1996) prior to the beginning of construction.

Implementation of PF-BIO-5, PF-BIO-9, PF-HYD-1, and AMM-BIO-1 through AMM-BIO-3 would reduce, avoid, or minimize impacts to special-status plant species and their habitat. The impact would be less than significant.

Wildlife

California Red-Legged Frog: California red-legged frog (*Rana draytonii*) (CRLF) is a federally threatened species and a California Species of Special Concern (SSC). The BSA is located outside of critical habitat and any designated recovery units. Suitable breeding habitat was not identified within the BSA; however, the BSA has the potential to provide suitable non-breeding aquatic and upland habitat. The BSA is within the current known range of CRLF, and there are 33 CNDDDB occurrences within approximately 5 miles of the BSA. While the nearest occurrences were from ponds and streams on the Point Reyes Peninsula, Tomales Bay, which is located at the culvert outfall, acts as a natural barrier between those populations and the BSA. The nearest recorded observation of CRLF is on the eastern shore of Tomales Bay west of the southbound lane of SR 1, located approximately 4.6 miles northwest of the BSA (CDFW 2022).

Numerous aquatic resources (e.g., drainages, streams, creeks, and ponds) are located within approximately 2 miles of the BSA (i.e., the known dispersal range of CRLF). However, such aquatic resources were not visited during the biological reconnaissance-level survey. If an aquatic resource were occupied by a breeding population of CRLF, then CRLF individuals could have the potential to disperse into the BSA.

Potential Project impacts include loss of individuals during vegetational removal, culvert replacement, and construction of the two wingwalls. Less than approximately 0.01 acre of potential aquatic non-breeding habitat would be temporarily or permanently impacted during construction. Approximately 0.06 acre and less than approximately 0.01 acre of upland habitat would be temporarily and permanently impacted, respectively, during construction. However, impacts to suitable habitat are not anticipated to affect the habitat's long-term suitability to support CRLF, should they occur in the BSA in the future.

Implementation of PF-BIO-4, PF-BIO-5, PF-BIO-6, PF-BIO-9, and PF-BIO-11, as well as AMM-BIO-4 through AMM-BIO-6 and AMM-BIO-9, would reduce, avoid, or minimize impacts to CRLF and its habitat. The impact would be less than significant.

Myrtle's Silverspot Butterfly: Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*) (MSB) is a federally listed endangered species and there is no designated critical habitat for MSB within the BSA. However, suitable habitat for western dog violet (*Viola adunca*), the larval host plant for MSB, occurs both east and west of SR 1. However, western dog violet was not observed within the BSA during rare plant surveys, and therefore it is anticipated that the BSA does not contain suitable breeding habitat for MSB. The BSA may provide suitable foraging habitat for adult MSB.

There are two recorded occurrences of MSB within approximately 5 miles of the BSA. One record occurred at Point Reyes National Seashore, which at its closest distance is approximately 1 mile west of the BSA. The second record occurred approximately 4.5 miles north of the Project; however, the CNDDDB siting was not definitive (CDFW 2022).

Implementation of PF-BIO-5, PF-BIO-8, and PF-BIO-9, as well as AMM-BIO-7 through AMM-BIO-9, would reduce, avoid, or minimize impacts to MSB and its habitat. The impact would be less than significant.

California Giant Salamander: The California giant salamander (*Dicamptodon ensatus*) (CGS) is listed as a California SSC. CGS has the potential to occur onsite in the mesic riparian areas within the BSA (i.e., east of the northbound lane of SR 1). In addition, the proximity to other wetlands, waters, and other aquatic features near the BSA has the potential to provide habitat for CGS. There are two recorded occurrences of CGS approximately 5 to 6 miles south of the BSA (CDFW 2022).

Potential Project impacts to CGS would result from construction of the two wingwalls, installation of the TCDS, and vegetation removal. The Project would have less than 0.01 acre of temporary and less than 0.01 acre of permanent impacts to CGS habitat; however, the Project is not anticipated to result in the take of any individuals.

Implementation of PF-BIO-4, PF-BIO-5, PF-BIO-6, PF-BIO-9, and PF-BIO-11, as well as AMM-BIO-4 and AMM-BIO-9, would reduce, avoid, or minimize impacts to CGS and its habitat. The impact would be less than significant.

b) Less Than Significant Impact with Mitigation Incorporated

Section 30107.5 of the California Coastal Act (CCA) defines environmentally sensitive natural communities as “any land in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (e.g., riparian and upland habitats, and essential fish habitat [EFH]). Section 30240(a) of the CCA calls for the protection of environmentally sensitive habitat areas (ESHAs) and states that “ESHAs shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.”

ESHAs: There are two types of ESHAs (i.e., environmentally sensitive natural communities) within the BSA: riparian habitat and upland habitat. The Project would temporarily and permanently impact approximately 0.06 acre and 0.01 acre, respectively, of riparian habitat (*Salix lasiolepis* shrubland alliance, *Rubus armeniacus* shrubland semi-natural alliance) by culvert replacement, installation of the TCDS, and construction of the two wingwalls, which would require removal of two arroyo willow (*Salix lasiolepis*) trees. The Project would temporarily impact approximately 0.13 acre of upland habitat (*Toxicodendron diversilobum* - *Baccharis pilularis* shrubland alliance, California annual and perennial grassland, *Sarcocornia pacifica* herbaceous alliance, *Carpobrotus* ssp. herbaceous semi-natural herbaceous alliance, *Distichlis spicata* herbaceous alliance, *Hesperocyparis macrocarpa* woodland species stand, and ruderal vegetation) and permanently impact less than approximately 0.01 acre of upland habitat (*Distichlis spicata* herbaceous alliance, *Toxicodendron diversilobum* – *Baccharis pilularis* shrubland alliance, and ruderal) by culvert replacement, removal of the RSP, excavation of the slipout, rebuilding the slope, and installing RSP.

Impacted riparian and upland habitats would be revegetated with appropriate native species. The two arroyo willow trees would be replaced; therefore, there would be a less than significant impact on ESHAs.

Implementation of PF-BIO-5, PF-BIO-8, PF-BIO-9, and PF-BIO-11, as well as MM-BIO-1 and MM-BIO-2, would reduce or mitigate impacts to ESHAs.

Essential Fish Habitat: The Project is located in the Tomales Bay U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle, which has designated EFH (i.e., an environmentally sensitive natural community) for Chinook and coho salmon, groundfish, and coastal pelagic species (NOAA Fisheries 2022). The BSA at the culvert outfall is located in the tidal zone of Tomales Bay and within the Marine EFH for Chinook salmon, coho salmon, groundfish, and coastal pelagic species.

The potential for fish species to be impacted is low, as fish species are not anticipated to be present in the BSA because the BSA at the culvert outfall is tidal, with low habitat diversity and complexity, potentially resulting in lower abundance of food organisms for fish species. In addition, only a small amount of aquatic habitat occurs within the BSA, near the Tomales Bay shoreline at the culvert outfall (Figure 1-3). Construction-related activities, such as replacing the culvert and installing the TCDS, may result in temporary increases in turbidity, sediment mobilization, or water quality degradation within the BSA; however, these effects are anticipated to subside quickly. In addition, fish species are mobile and could rapidly swim out of the BSA. Potential impacts to EFH include approximately 0.07 acre of temporary impacts due to removing and replacing the culvert and approximately 0.01 acre of permanent impacts due to installing the RSP.

Although the Project is located within designated EFH, with implementation of PF-BIO-3, PF-HYD-1, and AMM-GEO-2, no permanent or adverse modifications to EFH would result from the Project; therefore, the impact would be less than significant impact.

c) Less Than Significant Impact with Mitigation Incorporated

The Project would have a less than significant impact on federally protected wetlands, as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marsh, vernal pool, and coastal areas), through direct removal, filling, hydrological interruption, or other means. The Project would also have a less than significant impact on state protected wetlands, defined under Section 30121 of the

CCA as “lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.” Section 30233(a)(4) of the CCA analyzes wetlands “for incidental public service purposes, including, but not limited to burying... pipes” (i.e., culverts) and “maintenance of existing... outfall lines.”

A U.S. Army Corps of Engineers (USACE) aquatic resource delineation was conducted for federally protected wetlands and other waters as defined by Section 404 of the CWA. There was no evidence of wetlands features, as defined by Section 404 of the CWA, within the BSA; however, a total of approximately 0.08 acre of potentially jurisdictional estuarine intertidal waters and less than approximately 0.01 acre of potentially jurisdictional other waters were mapped within the BSA. These impacts would be verified by the USACE during the permitting process. A California Coastal Commission (CCC) aquatic resources delineation report would be prepared, and verified by the CCC, during the permitting process.

Approximately 0.07 acre of potentially jurisdictional estuarine intertidal waters and less than approximately 0.01 acre of potentially jurisdictional other waters would be temporarily impacted by the installation of the TCDS. The temporarily impacted areas would be restored and revegetated to mitigate impacts to habitat functionality. Approximately 0.01 acre of potentially jurisdictional estuarine intertidal waters would be permanently impacted by the installation of the RSP. In addition, less than 0.01 acre of potentially jurisdictional other waters would be permanently impacted by the construction of the two wingwalls.

Implementation of PF-BIO-3, PF-BIO-4, PF-BIO-10, PF-HYD-1, and MM-BIO-3 would reduce or mitigate impacts to aquatic resources. The impact would be less than significant with mitigation incorporated.

d) No Impact

The Project would not construct any new permanent barriers to wildlife movement, or otherwise interfere with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. There would be no impact.

e) Less Than Significant Impact

The Project would not conflict with any local policies or ordinances protecting biological resources.

The Marin Countywide Plan (General Plan) (Marin County 2007) is the comprehensive, long-range general plan that guides land use and development in the unincorporated areas of Marin County. The General Plan states, “restore damaged portions of Stream Conservation Areas [i.e., riparian areas] to their natural state wherever possible, and reestablish as quickly as possible any herbaceous and woody vegetation that must be removed within a Stream Conservation Area, replicating the structure and species composition of indigenous native riparian vegetation.”

Implementation of PF-BIO-10 is consistent with the General Plan. Therefore, the Project would not conflict with the General Plan to restore damaged portions of Stream Conservation Areas. The impact would be less than significant.

f) No Impact

The Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs into the Project to reduce potential impacts to biological resources:

- **PF-BIO-1: Permit Compliance Binder.** An on-site Permit Compliance Binder would be maintained by the Caltrans construction liaison at all times and presented to agency (CCC, CDFW, NOAA Fisheries, San Francisco Bay Regional Water Quality Control Board [RWQCB], USACE, and/or USFWS) personnel upon request. The Permit Compliance Binder would include a copy of all original permits, licenses, agreements, and certifications (PLACs), as well as any extensions and/or amendments to PLACs.
- **PF-BIO-2: Work According to Documents.** Except as they are contradicted by measures within the PLACs, all construction-related activities would be conducted in conformance with the Project description, AMMs, and MMs in the PLACs, as well as the PFs, AMMs, and MMs in this IS/MND.

- **PF-BIO-3: Water Diversion Plan.** The Contractor would prepare a water diversion plan, which would be reviewed and approved by Caltrans and the appropriate agencies prior to the beginning of construction. The agency-approved water diversion plan would detail the final TCDS design to be installed to convey water through the BSA during construction.
- **PF-BIO-4: Work During Periods of Dry Weather.** Construction-related activities in the bed, bank, channel, and any associated riparian habitat would occur during periods of dry weather. Forecasted precipitation would be monitored by the Resident Engineer (RE) or designee. When approximately 0.25 inch or more of precipitation (qualifying rain event) is forecasted to occur, construction-related activities would stop and erosion control BMPs would be installed prior to the onset of precipitation. After qualifying rain events, the BSA would be inspected for erosion and sediment problems and corrective action would be taken as needed; 72-hour weather forecasts from the National Weather Service would be consulted and work would not resume until surface runoff ceases and there is less than a 50 percent forecast for a qualifying rain event in the next 24-hour period.
- **PF-BIO-5: Delineate Environmentally Sensitive Areas.** Prior to the beginning of construction, ESAs within the BSA would be clearly delineated by a biological monitor using high visibility orange fencing, flagging, or similar markings. ESA fencing would remain in place throughout construction, though it may be removed during the wet season (and subsequently re-installed) if needed to prevent construction materials from being washed away. The final Project plans would depict all locations where ESA fencing would be installed. The final Project standard special provision (SSPs) would clearly describe acceptable fencing and prohibited construction-related activities, vehicles, equipment, and materials storage within ESAs. ESA fencing would be maintained in good repair throughout the duration of construction.
- **PF-BIO-6: Wildlife Exclusion Fencing.** Prior to the beginning of construction, at the discretion of the biological monitor, wildlife exclusion fencing (WEF) would be installed within the BSA in areas where wildlife could enter the BSA. At the discretion of the biological monitor, WEF may be removed at times when construction is no longer active in the area. All WEF would be removed following completion of construction-related activities.

- **PF-BIO-7: Nesting Bird Surveys.** If construction-related activities occur between February 1 and September 30, a biological monitor would conduct preconstruction surveys for nesting birds. The survey would include a perimeter buffer of approximately 50 feet for non-game migratory birds and approximately 300 feet for raptors. All nest avoidance requirements of the Migratory Bird Treaty Act, USFWS, and CDFW would be observed. If an active nest is found, an appropriate protection buffer would be established until the young fledge. USFWS and/or CDFW would be contacted within 24 hours if a special-status species is discovered within the BSA.
- **PF-BIO-8: Invasive Weed Control.** To reduce the spread of invasive, non-native plant species and the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with Executive Order (EO) 13112. The purpose of EO 13112 is to prevent the introduction of invasive species and provide for their control to reduce the economic, ecological, and human health effects. If invasive species are disturbed or removed during construction-related activities, the contractor would be required to contain the plant material associated with these invasive species and dispose of them in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all PLACs, and environmental clearances for proper disposal. Areas subject to noxious weed removal or disturbance would be hydroseeded with fast growing locally appropriate, commercially available native grasses or an erosion control mixture of locally appropriate, commercially available native seed species. Where seeding is not practical, the target areas within the BSA would be covered to the extent practicable with heavy black plastic solarization material.

If work occurs in ESHAs, construction vehicles and equipment would be thoroughly cleaned prior to arriving on the construction site to prevent the spread of invasive species from other locations.

- **PF-BIO-9: Vegetation Removal and Tree Trimming.** Vegetation would be removed, and trees trimmed, only where necessary, and vegetation would be cut above soil level, except where excavations and permanent impacts would occur, to allow plants that reproduce vegetatively to resprout after construction.
- **PF-BIO-10: Restore Disturbed Areas.** Temporarily disturbed areas, including those in which the existing RSP was installed under the DO and would be removed as part of the Project, would be restored. Exposed slopes and bare

ground would be reseeded with locally appropriate, commercially available native grasses to stabilize bare soil and prevent erosion.

- **PF-BIO-11: Prevent Inadvertent Entrapment.** To prevent inadvertent entrapment of wildlife species during construction, all excavated, steep-walled holes or trenches dug more than approximately 1-foot below ground surface would be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than approximately 30 degrees. Holes and trenches would be thoroughly inspected for trapped wildlife species prior to filling. Pipes, culverts, or similar structures stored in the BSA would be inspected before they are moved, capped, or buried.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following standard AMMs to avoid or minimize potential impacts to biological resources:

- **AMM-BIO-1: Rare Plant Surveys.** Prior to the beginning of construction, botanical surveys would be conducted in areas of suitable habitat for rare plant species during the appropriate blooming season(s).
- **AMM-BIO-2: Avoid Rare Plants.** The BSA would be adjusted, if practicable, to avoid affecting special-status plant species.
- **AMM-BIO-3: Minimize Disturbance to Rare Plants.** If avoiding rare plant species is not practicable, measures may be implemented to minimize impacts. AMMs may include one or more of the following: (1) collection of rare plants seeds, bulbs, other propagules, or topsoil prior to construction for use in future onsite restoration or enhancement actions; (2) restoration or enhancement of suitable onsite rare plant habitat; or (3) restoration or enhancement of suitable offsite rare plant habitat.
- **AMM-BIO-4: California Red-Legged Frog Habitat Work Window.** Ground disturbance in areas identified as suitable CRLF habitat that has not been previously disturbed in such a way that removes or destroys access to burrows and migratory habitat, or has not been previously enclosed with WEF, as identified by a USFWS-approved biological monitor, would occur between April 15 and October 31. Areas that are not considered suitable CRLF habitat are accessible for construction work activities year-round (unless outlined in PLACs).

- **AMM-BIO-5: Monitoring Protocols.** During construction in potential and/or suitable CRLF habitat, the following monitoring protocols would be observed by a USFWS-approved biological monitor:
 - a. Within 24 hours prior to initial ground-disturbing activities, potential and/or suitable CRLF habitat identified within the BSA would be surveyed by a USFWS-approved biological monitor to clear the site of CRLF moving above ground or taking refuge in burrow openings or under construction materials that could provide cover.
 - b. A USFWS-approved biological monitor would be present during ground-disturbing activities and vegetation/tree removal in suitable CRLF habitat to monitor the removal of the top 12 inches of soil.
 - c. If potential aestivation burrows are discovered, the burrows would be flagged for avoidance when feasible.
 - d. After a qualifying rain event, and prior to resuming construction activities, a USFWS-approved biological monitor would inspect the BSA and all construction equipment and materials for the presence of CRLF.
 - e. Upon discovery of a CRLF individual(s) within the BSA, all construction-related activities would cease within a 50-foot radius of the frog. The frog would be allowed to leave the BSA on its own; or if the CRLF does not leave on its own, it would be relocated as close to the BSA as feasible and with permission from the adjacent property owner and placed in a natural burrow by a USFWS-approved biological monitor with the appropriate USFWS 10(a)1(A) handling permit.
 - f. USFWS would be notified by phone and email within 1 working day of any CRLF discovery within the BSA.

- **AMM-BIO-6: Preconstruction Surveys for California Red-Legged Frog.** Preconstruction surveys for CRLF would be conducted by a USFWS-approved biological monitor within 14 calendar days of the beginning of construction-related activities in suitable upland dispersal and aquatic habitat prior to the beginning of ground-disturbing activities, vegetation removal, and WEF installation. Surveys would be conducted as outlined in the USFWS (2005) species survey guidelines (USFWS Guidelines) for CRLF. Access to CRLF

habitat may be limited by appropriate safety measures and protocols discussed in the USFWS Guidelines. Preconstruction surveys would include:

- a. Foot surveys would be conducted of potential CRLF habitat within 50 feet of, as well as within, the BSA.
 - b. Potential cover sites (e.g., burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil would be investigated for signs of CRLF.
 - c. CRLF found in potential cover sites within the BSA would be documented and, if handling is allowed by the USFWS, relocated by a USFWS-approved biological monitor to an adequate cover site in the vicinity of the BSA. CRLF that cannot be relocated would be addressed in coordination with the USFWS.
- **AMM-BIO-7: Preconstruction Survey for *Viola adunca*.** A preconstruction survey for *Viola adunca* would be conducted prior to the beginning of construction, referencing phenology trends observed at nearby reference populations. If *Viola adunca* is not found within the BSA, then the BSA does not contain suitable breeding habitat for MSB.
 - **AMM-BIO-8: Minimize Impacts to *Viola adunca* and Myrtle's Silverspot Butterfly.** *Viola adunca* would be flagged and fenced for avoidance if found within the BSA. Host plants would be surveyed for evidence of MSB larval feeding or damage. If host plants are considered potentially occupied by MSB, then construction-related activities would occur during MSB larval period and outside of MSB flight season. If host plants cannot be avoided, then work would occur during the MSB flight season with a USFWS-approved biological monitor present to survey for adult MSB. If MSB is observed within the BSA, the USFWS-approved biological monitor, through communication with the RE or designee, may stop work if deemed necessary for any reason to protect MSB and would advise the RE or designee on how to proceed accordingly.
 - **AMM-BIO-9: Worker Environmental Awareness Training.** Prior to the beginning of construction, a qualified biologist would provide worker environmental awareness training (WEAT) for all construction personnel to identify any special-status species that may be within the BSA, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later would receive

the same training before beginning work. Upon completion of WEAT, construction personnel would sign a form stating they attended the program and understand all protection measures. A pamphlet that contains images of special-status species that have the potential occur within the BSA, describes ESAs within the BSA, and notes key protection measures, as well as employee guidance, would be given to each person who completes the training program. These forms would be made available to the appropriate agencies upon request.

MITIGATION MEASURES

Caltrans would incorporate the following MMs to mitigate potential impacts to biological resources:

- **MM-BIO-1: Impacts to ESHAs.** Temporary impacts to ESHAs (i.e., riparian and upland CRLF habitat) will be mitigated at a ratio of 1:1. Permanent impacts to ESHAs and aquatic resources will be mitigated at ratios of 3:1 and 4:1, respectively. Impacts to ESHAs, mitigation ratios, and mitigation monitoring will be confirmed with the appropriate agencies during the permitting process.
- **MM-BIO-2: Tree Replacement.** Two arroyo willow (*Salix lasiolepis*) trees will be removed and replaced at a ratio of 3:1. Appropriate replacement locations will be determined during the permitting process and in consultation with the appropriate agencies.
- **MM-BIO-3: Impacts to Waters.** Approximately 0.07 acre of potentially jurisdictional estuarine intertidal waters and less than approximately 0.01 acre of potentially jurisdictional other waters would be temporarily impacted by the installation of the TCDS. The temporarily impacted areas will be restored to mitigate impacts to habitat functionality. Approximately 0.01 acre of potentially jurisdictional estuarine intertidal waters would be permanently impacted by the installation of the RSP. In addition, less than 0.01 acre of potentially jurisdictional other waters would be permanently impacted by the construction of the two wingwalls. Temporary and permanent impacts will be mitigated at a ratio of at least 1:1. Impacts to waters, mitigation ratios, and mitigation monitoring will be confirmed with the appropriate agencies during the permitting process.

3.3.5 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?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	Less Than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES

A Section 106 Closeout Memorandum was prepared by the Caltrans Office of Cultural Resource Studies (Caltrans 2022e). The investigation was performed by a Caltrans archaeologist and architectural historian who are Professionally Qualified Staff (PQS) for prehistoric archaeology and architectural history. A summary of the findings is presented here.

Two areas of potential effects (APEs) were defined: the archaeological APE and the built environment APE. The archaeological APE includes all areas of Project work, staging, and other areas of potential direct and indirect impact to cultural resources, and is approximately 1.8 acres. The vertical archeological APE/area of direct impact (ADI) includes all areas where ground disturbances from Project-related activities are anticipated. Maximum depth of the excavation varies from up to approximately 15 feet below ground surface for constructing the two wingwalls east of the northbound lane and up to approximately 10 feet below ground surface to remove and replace the culvert. The built environment APE encompasses the entire Project footprint and is approximately 0.26 acre.

Caltrans PQS staff conducted a literature review of the Caltrans Cultural Resource Database, as-built plans, aerial photographs, and maps. One previously recorded archaeological resource (P-21-000030/CA-MRN-613, a precontact shell midden site) was identified within the approximately 0.25-mile radius of the archaeological APE (Busse 2022a).

Caltrans PQS staff contacted the Native American Heritage Commission (NAHC) and requested a Sacred Lands File search. NAHC stated that the Sacred Lands File search request was negative and provided contact information for interested Native American Parties in the Project corridor to consult. To comply with Section 106 of

the National Historic Preservation Act (NHPA) and Assembly Bill (AB) 52, Caltrans initiated consultation with Native American tribes (i.e., Federated Indians of Graton Rancheria [FIGR], Guidiville Indian Rancheria, and Wuksache Indian Tribe/Eshom Valley Band) and individuals. Letters were sent on December 8, 2021. To date, Caltrans received a response from the FIGR requesting formal consultation regarding the Project. FIGR was contacted, and the Project components were described. A follow-up meeting was held at the Project location to discuss the Project footprint and the anticipated Extended Phase I (XPI) excavations, which were agreed upon to occur within Caltrans ROW and not necessary to occur outside of the ADI. Field and laboratory methods, as well as a Native American monitor from FIGR being present for, the XPI excavations were discussed. Consultation is ongoing (Busse 2022b).

A surface survey of the Project footprint within Caltrans ROW was conducted in transects along both shoulders. Vegetation and cattle outside the Caltrans ROW prevented access east of the northbound land of SR 1 within the approximately 0.04-acre TCE located within Marin County APN 104-130-47 east of the northbound lane of SR 1. The approximately 0.10-acre TCE and approximately 0.02-acre PDE located within Marin County APN 104-220-07 west of the southbound lane of SR 1 were surveyed during low tide. A Native American monitor from FIGR was present for the XPI fieldwork (Busse 2022a and 2022b). The results of the excavations were negative.

The previously recorded archaeological resource (P-21-000030/CA-MRN-613, a precontact shell midden site) was identified within the approximately 0.25-mile radius of the archaeological APE and is eligible for the National Register of Historic Places (NRHP). Potential project impacts would be avoided with standard protective measures (i.e., establishment of an ESA). One built environment resource (P-21-000487/CA-MRN-560H), a newly identified segment of a previously recorded historic-era railroad grade, was identified within the Project footprint and would be protected with the establishment of an ESA. Caltrans determined that a Finding of No Adverse Effect with Standard Conditions – Environmentally Sensitive Area is applicable for the Project (Caltrans 2022e).

a) No Impact

Two cultural resources will be protected using ESAs during construction. Therefore, there is no impact.

b, c) Less Than Significant Impact

The procedures for the treatment of discovered human remains are contained in California Health and Safety Code Sections 7050.5 and 7052, and California Public Resources Code Section 5097. Interred human remains, particularly Native American burials and associated items of patrimony, need to be protected from vandalism and inadvertent destruction. Implementation of PF-CULT-1, PF-CULT-2, and AMM-CULT-1 would reduce, avoid, and/or minimize the impact to less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs to reduce potential impacts to cultural resources:

- **PF-CULT-1, Inadvertent Archaeological Discoveries:** If buried archaeological resources are discovered during ground-disturbing activities, work would cease until a Caltrans qualified archaeologist can assess the nature and significance of the resource and appropriate AMMs are implemented. The need for monitoring during the remainder of the Project would be reevaluated. The Caltrans qualified archaeologist would consult with appropriate Native American tribes in determining suitable treatment for inadvertent archaeological discoveries if the resource is Native American in nature.
- **PF-CULT-2, Discovery of Human Remains:** If human remains are discovered during ground-disturbing activities, construction-related activities within a 100-foot radius of the find would be halted immediately and the Caltrans qualified archaeologist would be notified within 24 hours. The Caltrans qualified archaeologist would immediately notify the Marin County coroner. The Marin County coroner is required to examine the find within 48 hours of receiving notification of such a discovery. If the Marin County coroner determines that the human remains are those of a Native American, the NAHC would be contacted by phone within 24 hours of making the determination (California Health and Safety Code Section 7050.5[c]). The Caltrans qualified archaeologist would notify Native American tribes of discovered human remains. The NAHC would contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the discovered human remains. The MLD, in cooperation with the adjacent property owner and the Caltrans qualified archaeologist, would determine the ultimate disposition of the human remains.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following standard AMM to avoid and/or minimize potential impacts to cultural resources:

- **AMM-CULT-1, Establish and Enforce Environmentally Sensitive Area**
Action Plan: Prepare an ESA Action Plan, which would establish an ESA to delineate the archaeological site for protection. Specific measures, such as protective fencing, access restrictions, and monitoring of the ESA boundaries by a qualified archaeologist, would be enforced by the responsible parties identified in the ESA Action Plan. The horizontal and vertical ESA as identified in the ESA Action Plan would avoid and/or minimize impacts to P-21-000030/CA-MRN-613 and P-21-000487/CA-MRN-560H.

3.3.6 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

CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

An Energy Analysis Report was prepared by the Caltrans Office of Environmental Engineering (Caltrans 2022a). A summary of the findings is presented here.

Activities that consume energy generate byproducts. Greenhouse gases (GHGs) are the most extensively studied byproducts of energy consumption and are linked to climate change. To assess energy consumed by construction vehicles and equipment, the Caltrans-developed Construction Emissions Tool 2020, version 1.0, was used to quantify carbon dioxide (CO₂) emissions. The U.S. Environmental Protection Agency’s (USEPA’s) GHG equivalencies formulas were used to convert CO₂ emissions to fuel volumes. It was assumed diesel fuel would be used for all construction vehicles and equipment. Construction vehicles and equipment are anticipated to consume approximately 11,493 gallons of diesel fuel during construction of the Project (Caltrans 2022b).

a) Less Than Significant Impact

During construction, PF-ENERGY-1 and PF-ENERGY-2, would be implemented to improve energy efficiency of construction equipment. In addition, implementation of PF-AQ-2 and PF-AQ-3, as discussed in Section 3.3.3 and summarized in Appendix C, would also improve energy efficiency and reduce energy consumption by Project construction.

Construction-related activities would be short term and would not increase SR 1 transportation capacity or otherwise alter long-term vehicle traffic in a manner that would have the potential to affect energy use. During Project operation, energy consumption would be limited to routine maintenance activities that are anticipated to be similar to existing conditions. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction and operation. The Project would have a less than significant impact.

b) No Impact

The Project would not result in change in traffic volumes, vehicle mix, or other factors that would cause an increase in energy consumption. The Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with a state or local plan for renewable energy or energy efficiency. Therefore, the Project would not conflict with the regional/statewide goals on renewable energy or energy efficiency. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following standard PFs into the Project to reduce potential impacts to energy:

- **PF-ENERGY-1, Recycle Nonhazardous Waste and Excess Construction Materials:** Recycle nonhazardous waste and excess construction materials offsite to reduce disposal, if feasible.
- **PF-ENERGY-2, Solar Energy:** Use solar energy as the energy source for construction equipment, such as, but not limited to, signal boards, if feasible.

3.3.7 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.	Less Than Significant Impact
(ii) Strong seismic ground shaking?	Less Than Significant Impact
(iii) Seismic-related ground failure, including liquefaction?	Less Than Significant Impact
(iv) Landslides?	Less Than Significant 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?	Less Than Significant 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

CEQA SIGNIFICANCE DETERMINATIONS FOR GEOLOGY AND SOILS

A Geologic, Seismic, and Palaeontologic Analysis was prepared by the Caltrans Office of Geotechnical Design – West (Caltrans 2021b). A summary of the findings is presented here.

The Project is located within the central portion of the Coast Ranges Geomorphic Province of California. The dominant feature of this province is the San Andreas Fault, an approximately 800-mile-long fault zone that generally forms the dividing line between major tectonic plates, with the Pacific Plate situated west of the San Andreas Fault and the North American Plate situated east of the San Andreas Fault. An inferred trace of the North Coast section of the San Andreas Fault mapped within Tomales Bay lies approximately 4,300 feet southwest of the Project (Bryant 2002).

The Coast Ranges generally consists of complexly folded Mesozoic and Cenozoic sedimentary, metamorphic, and volcanic rock. The Project is underlain by Mélange of

the Franciscan Complex (Franciscan mélange), a highly deformed rock complex of Mesozoic age (Blake et al. 2000) with artificial backfill material overlying the culvert. Franciscan mélange can be characterized by a tectonic mixture of variably sheared shale and sandstone, with hard tectonic inclusions, blocks, and resistant masses of varying abundance and degree of shearing (Blake, et al. 2000).

Soils underlying the Project are mapped as Felton variant-Soulajule complex and Olompali loam. General information on these soils was obtained from the National Resources Conservation Service (NRCS) web soils survey and official soil series descriptions (NRCS 2022).

a(i), (ii), (iii),(iv), b), and c) Less Than Significant Impact

The Project would be subject to strong ground shaking from nearby faults. However, replacing the culvert and rebuilding the slope is intended to improve stability. The Project is not located within the Alquist-Priolo Earthquake Zone of Required Investigation (CGS 2022) but is mapped within the Tsunami Inundation Area (CGS 2009). Soils may be subject to liquefaction during a strong seismic event; however, the Project would not further add to the hazard.

The Project would require soil disturbance, which could result in erosion outside the Caltrans ROW, but this risk would be reduced, avoided, or minimized by incorporation of PFs and AMMs.

The Project is not mapped on an unstable geologic unit or soil and would likely not directly or indirectly result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse surface rupture.

With application of Caltrans construction site BMPs (PF-HYD-1 and PF-HYD-2), AMM-GEO-1, and AMM-GEO-2, the Project would not result in increased seismic-related risk, substantial erosion, or loss of topsoil. Therefore, impacts would be less than significant.

d, e) No Impact

Soft soils (loam and clay soils) may be found within the Project footprint, but physical properties of soils mapped by NRCS within the Project footprint are not characterized as expansive or collapsible. No septic tanks or alternative wastewater delivery systems would be constructed or affected by the Project; therefore, there would be no impact.

f) Less Than Significant Impact

The underlying Franciscan mélange may contain fossils; however, paleontological sensitivity within the Project footprint is low. Fossils that may be encountered within the Project footprint would most likely be microscopic plankton limited to chert and shale blocks found at depths of approximately 4- to 6-feet below ground surface, which is above the anticipated excavation depths of approximately 15 feet below ground surface. Based on sensitivity and likelihood of construction to expose fossils or significantly affect sensitive palaeontologic resources, the Project would have a less than significant impact.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMM to avoid or minimize potential impacts to geology and soil resources:

- **AMM-GEO-1: Perform Site-Specific Geotechnical and Engineering Studies, and Implement Recommendations.** Site-specific geotechnical and engineering studies would be prepared prior to the beginning of construction.

3.3.8 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

CEQA SIGNIFICANCE DETERMINATIONS FOR GREENHOUSE GAS EMISSIONS

A Construction-Related Greenhouse Gas Emissions Analysis was prepared by the Caltrans Office of Environmental Engineering (Caltrans 2022b). A summary of the findings is presented here.

The construction-related GHG emissions were calculated using the Caltrans CAL-CET 2020 tool. The Project is anticipated to emit approximately 117 tons of CO₂, 0.004 ton of methane (CH₄), and 0.006 ton of nitrous oxide (N₂O). Total GHG emissions are presented as carbon dioxide equivalent (CO₂e) by multiplying each GHG by their global warming potential (GWP). GWP is a measure of how much energy the emissions of 1 ton of a GHG would absorb over a given period of time, relative to the emissions of 1 ton of CO₂. The Project is anticipated to emit approximately 107.88 metric tons of CO₂e during construction.

a) Less Than Significant Impact

The Project, following construction, would not increase SR 1 transportation capacity and would therefore not lead to an increase in GHG emissions (i.e., increased emissions from vehicles in the Project corridor). However, construction-related activities would generate short-term GHG emissions, including construction equipment, workers commuting to and from the Project site, and traffic delays/detours. The short-term GHG emissions would be produced at different rates throughout construction, depending on the construction-related activities occurring in the three phases of construction. CO₂ is an important GHG pollutant due to its abundance, in particular when compared with other GHGs (i.e., CH₄, N₂O, hydrofluorocarbon, and black carbon), emitted from construction vehicles and equipment.

The Project would implement Caltrans Standard Specifications, such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to

work performed under the Contract and using construction site BMPs to reduce, avoid, or minimize short-term GHG emissions from construction activities. PF-AQ-2, PF-AQ-3, PF-ENERGY-1, and PF-ENERGY-2, as discussed in Sections 3.3.3 and 3.3.6 and summarized in Appendix C, would reduce air emissions, energy consumption, and GHG emissions to the maximum feasible extent.

Therefore, the Project would not generate GHG emissions that may have a significant impact (i.e., long-term adverse effects) on the environment. The impacts would be less than significant.

b) No Impact

Plans and policies adopted for the purposes of reducing GHG emissions in California include multiple Senate and Assembly Bills and Executive Orders. These policies establish GHG emissions reduction goals, set low-carbon fuel standards, support rapid commercialization of zero-emission vehicles, fund clean vehicle programs, and require climate adaptation planning. Association of Bay Area Governments and Metropolitan Transportation Commission (ABAG and MTC) developed Plan Bay Area, a Regional Transportation Plan and Sustainable Communities Strategy for the Bay Area, which includes strategies and policies for reducing GHG emissions (ABAG and MTC 2021).

The Project would comply with applicable state and regional GHG reduction policies and implement emission control measures to reduce GHG emissions. The Project would not contribute to a long-term increase in GHG emissions. Therefore, the Project would not conflict with applicable plans, policies, or regulations adopted for the purposes of reducing the emissions of GHG. There would be no impact.

3.3.9 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
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No 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

CEQA SIGNIFICANCE DETERMINATIONS FOR HAZARDS AND HAZARDOUS MATERIALS

SR 1 is a public highway, with motorists and bicyclists frequently traveling along the route. Four residential structures are located along Clark Road east of the northbound lane of SR 1, the nearest being approximately 250 feet northwest of the Project footprint. In addition, residential and agricultural structures are located along a private driveway approximately 500 feet southeast of the Project footprint.

a, b) Less Than Significant Impact

Replacing the culvert, constructing the two wingwalls, and removing and installing RSP would not involve the routine transport or use of hazardous materials once the Project becomes operational. During construction, Caltrans Standard Specifications would be implemented to prevent spills or leaks from construction equipment and from the storage of fuels, lubricants, and solvents. Construction-related activities associated with removal, storage, transportation, and disposal of hazardous materials

would occur in accordance with the appropriate California Health and Safety Code. Handling of hazardous materials would comply with Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, which outlines handling, storage, and disposal of hazardous waste.

The extent of ground disturbance would be assessed during the PS&E phase. If required, a site investigation to characterize soil for contaminants, primarily aerially deposited lead, would be conducted during the PS&E phase. The results of the site investigation would dictate the final Project SSPs required for the safe handling of soil (Caltrans 2021c).

The lack of operational impacts from hazardous materials, along with compliance with Caltrans Standard Specifications and SSPs, would reduce, avoid, or minimize the potential construction-related impacts caused by the transportation, use, and disposal of hazardous materials or an accidental release of hazardous materials to a less than significant level.

c) No Impact

No existing or proposed school is located within 0.25 mile of the Project. The nearest school is Tomales Elementary School, approximately 4.3 miles north of the Project. Further, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during operation. No impacts to schools would result.

d) No Impact

Screening of environmental regulatory databases, including the State Water Resources Control Board's GeoTracker and California Department of Toxic Substances Control's EnviroStor, revealed no known hazardous materials or hazardous waste sites within the Project footprint. A former Leaking Underground Storage Tank (LUST) Cleanup Site case located approximately 1.7 miles southeast of the Project has been closed since August 1999 (SWRCB 2022). The Project is not located within a hazardous materials site compiled pursuant to Government Code Section 65962.5. Therefore, no impact would result from the Project.

e) No Impact

There are no airports located within approximately 2 miles of the Project. The Petaluma Municipal Airport, located approximately 16.9 miles northeast of the

Project, is a public facility frequently used by tourists traveling into the region, corporate travel to North Bay businesses, and as a FedEx hub (City of Petaluma 2022). The Project is not located within any airport land use plans.

No Project components, including construction equipment, would reach heights or have elements that have the potential to pose a safety hazard to airport operations. Further, the Project would not generate excessive noise that would impact people residing or working in the Project area, as discussed in Section 3.3.13. No impact on airports would result from the Project.

f) Less Than Significant Impact

The Project would require full closure of SR 1 for approximately four nights, as well as implementing one-way alternating traffic control during construction. Potential localized delays to traffic along SR 1 would result. A Traffic Management Plan (TMP), as discussed in Section 3.3.17, would be prepared prior to the beginning of construction in consultation with the appropriate agencies, and would identify traffic delays/detours. Emergency service response times are not anticipated to change during construction because the TMP would provide priority to emergency and medical vehicles during full closure of SR 1 or one-way alternating traffic control. The TMP would provide notifications and instructions for rapid response or evacuation in the event of an emergency. In addition, the Project would not conflict with the Marin Operational Area Emergency Operations Plan (Marin County 2014) or other emergency response or evacuation plans. The impact on adopted emergency response plans or emergency evacuation plans caused by the Project would be less than significant.

g) Less Than Significant Impact

The Project is located within a California Department of Forestry and Fire Protection (CAL FIRE)-designated Moderate Fire Hazard Severity Zone (State Responsibility Area [SRA]). The Marin County Fire Department, which serves the Project corridor, is responsible for emergency services and the management of fire operations during emergency response efforts; the Tomales Fire Station is located at 599 Dillon Beach Road, approximately 4.3 miles north of the Project.

Equipment may be used during construction that has the potential to increase the risk of wildfire. However, construction personnel would be equipped with standard incipient stage fire suppression equipment, such as fire extinguishers and shovels.

Professional fire services would be contacted immediately in the event of a fire. The Project does not have permanent components that would expose people or structures to the risk of loss, injury, or death involving wildland fires. Impacts from the Project that would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires would be less than significant.

3.3.10 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
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;	Less Than Significant 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	Less Than Significant Impact
(iv) impede or redirect flood flows?	Less Than Significant Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	Less Than Significant Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR HYDROLOGY AND WATER QUALITY

A Water Quality Study was prepared by the Caltrans Office of Water Quality (Caltrans 2021d) and a Location Hydraulic Study/Floodplain Analysis was prepared by the Caltrans Office of Hydraulic Engineering (Caltrans 2021a). A summary of their findings is presented here.

The Project is located within the jurisdiction of the RWQCB, which is responsible for the implementation and enforcement of state laws and regulations concerning water quality. The Project is within the Marin Coastal Hydrologic Unit, Tomales Bay Hydrologic Area, and Undefined Hydrologic Sub-Area.

The direct receiving water body within the Project footprint is Tomales Bay, which is included as a beneficial use in the RWQCB Basin Plan and is classified as an impaired water body under the 2014-16 California Clean Water Act Section 303(d) List (SWRCB 2017). Tomales Bay is listed as impaired for nutrients and

sedimentation/siltation and has Total Maximum Daily Loads (TMDLs) for mercury and pathogens (SWRCB 2006).

The anticipated disturbed-soil area (DSA) is approximately 0.25 acre, the anticipated replaced impervious area is approximately 0.01 acre, and a new impervious surface (NIS) is not anticipated. Therefore, the net NIS is anticipated to be approximately 0.01 acre.

Per the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the Project is located within FEMA Base Floodplain Zone AE, which is a Special Flood Hazard Area that has a 1-percent-annual-chance flood hazard. The Project's topographic data indicate that the Base Flood inundates the culvert west of the southbound lane of SR 1 in Tomales Bay, flows east through the culvert, and floods the low-lying area at the culvert inlet east of the northbound lane of SR 1. The Project is not located in a regulatory floodway.

The Project location is not subject to tidal influence from current and/or future sea-level rise as provided in the State of California Sea-Level Rise Guidance, 2018 Update (California Ocean Protection Council 2018). Sea-level rise within the Project limits for the year 2080 (assuming high emissions) is anticipated to range from approximately 1.2 feet to 6.7 feet; however, the Project limits are not anticipated to be impacted by sea-level rise during the assumed 50-year service life of the culvert. Potential sea-level rise impacts are not evaluated further in this IS/MND due to the limited nature of the scope of work for the Project, the purpose of which is to replace the culvert and rebuild the slope to restore drainage system functionality and prevent further damage to SR 1. Climate change and future sea-level rise would be considered through the environmental evaluation process of future Projects scoped to address these issues on SR 1 in the Project corridor.

a) Less Than Significant Impact

Construction-related activities have the potential to temporarily contribute stormwater runoff and pollutants to Tomales Bay. Potential construction-related activities that could result in water quality impacts may include, but are not limited to, the following:

- Debris and sediments from removal of the structural section and culvert
- Concrete curing and waste
- Dewatering

- Earthwork
- Ground-disturbing activities
- Vegetation and tree removal
- Oil and grease from construction vehicles and equipment
- Sanitary wastes
- Construction-related waste

Construction-related activities that have the potential to contribute stormwater runoff and pollutants to Tomales Bay may include, but are not limited to, the deposition and transport of sediment and construction equipment and vehicle-related pollutants.

Implementation of PF-HYD-1 would reduce temporary impacts to water quality and facilitate adherence to the applicable TMDLs.

In addition, the anticipated DSA of approximately 0.25 acre does not exceed 1 acre and therefore the Project is not subject to the Construction General Permit and is not expected to result in operational-related impacts to water quality standards or exceed waste discharge requirements. To comply with the conditions of the Caltrans National Pollutant Discharge Elimination System (NPDES) permit and to further reduce potential impacts to hydrology and water quality, a Water Pollution Control Program (WPCP) would be prepared prior to the beginning of construction. Potential hydrology and water quality impacts would be reduced to the maximum extent practicable through implementation of PF-HYD-1 and PF-HYD-2. As a result, Project impacts would be less than significant.

b) No Impact

Water would be used temporarily during construction, such as within staging area entrances and exits. Water for construction-related activities would be brought in by the contractor and groundwater would not be used. Therefore, the Project would not affect groundwater supplies or groundwater recharge areas and there would be no impact.

c(i), (ii), (iii), (iv) Less Than Significant Impact

The Project would restore drainage system functionality and prevent further damage to SR 1. As discussed for item b), implementation of PF-HYD-1 and PF-HYD-2, would reduce erosion, siltation, and the discharge of polluted surface runoff on- or offsite. A NIS is not anticipated for the Project and the Project would therefore not

result in an increase in surface runoff. The Project would not significantly alter existing terrain or existing drainage patterns, and therefore would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted surface runoff. Installation of the TCDS may result in temporary increases in turbidity, sediment mobilization, or water quality degradation within the Project footprint, short-term impacts to riparian habitat, and short-term impacts to species such as CRLF and CGS; however, these impacts are anticipated to subside quickly. Installation of the TCDS may temporarily impede flows during construction activities; however, the TCDS would be removed when construction is completed. Therefore, the impact would be less than significant.

d) Less Than Significant Impact

The Project is not located within a regulatory floodway. As discussed in items a) and c), the Project would not contribute new substantial sources of surface runoff or pollutants or result in increased flooding. The Project would not impact natural and beneficial floodplain values or support incompatible floodplain development. The Project would not impact the floodplain, and no floodplain impacts are anticipated. The Project is located in a tsunami inundation zone (California Department of Conservation 2009), but in the case of Project inundation, the release of substantial pollutants is not anticipated. Therefore, there would be a less than significant impact.

e) No Impact

With implementation of PF-HYD-1 and PF-HYD-2, the Project would not conflict with, or obstruct, implementation of a water quality control plan or suitable groundwater management plan.

PROJECT FEATURES

Caltrans would incorporate the following PFs into the Project to reduce potential impacts to hydrology and water quality:

- **PF-HYD-1, Construction and Implementation of Erosion Control, Construction Site, and Water Pollution Control Best Management Practices:** Erosion control BMPs would be included in the final Project plans and SSPs to comply with the conditions of the Caltrans NPDES permit. The Caltrans BMP Guidance Handbook (Caltrans 2017) would provide guidance for SSPs for measures to protect delineated ESAs and reduce stormwater and non-stormwater

discharges. Construction site BMPs may include, but are not limited to, the following:

- Soil stabilization
- Sediment control
- Wind erosion control
- Tracking control
- Non-stormwater management

Erosion control and water pollution control BMPs would be prepared and implemented during construction to reduce wind- or water-related erosion. BMPs would follow the requirements of Section 401 of the Clean Water Act under the jurisdiction of the RWQCB and the standards outlined in the Caltrans BMP Guidance Handbook (Caltrans 2017).

The following restrictions would be implemented to reduce potential impacts on hydrology and water quality:

- Enforce a speed limit of 15 miles per hour for construction vehicles and equipment in unpaved portions of the Project footprint to reduce dust and excessive soil disturbance.
- Locate construction access, staging, storage, and parking areas within Caltrans ROW and outside of delineated ESAs to the extent practicable. Construction staging areas and storage of equipment and materials would be limited to the minimum necessary to construct the Project. ESAs would be clearly delineated prior to the beginning of construction.
- Certify, to the maximum extent practicable, that imported borrow material is nontoxic and weed-free.
- Enclose food and food-related waste in sealed containers and remove them from the Project footprint at the end of each working day.
- Prohibit pets from entering the Project footprint during construction.
- Prohibit firearms within the Project footprint, except for those carried by authorized security personnel or local, state, or federal law enforcement.

- **PF-HYD-2, Water Pollution Control Program:** A WPCP would be prepared by the contractor and approved by the Caltrans Water Quality Specialist, pursuant to the Caltrans Standard Specifications Section 13, Water Pollution Control, and the Caltrans WPCP Preparation Manual, and implemented prior to the beginning of construction.

3.3.11 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?	Less than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR LAND USE AND PLANNING

The Project is located along SR 1 at PM 40.3 within the West Marin Planning Area. Existing and future land uses for the Project footprint are described in the Marin Countywide Plan built environment element (Marin County 2007).

According to the Marin Countywide Plan built environment element, the Project footprint’s land use designations are Agriculture Production Zone and Residential Single Family Planned (Marin County 2022a). Surrounding land uses in the Project vicinity include Open Space, Agriculture Production Zone, and Residential Single Family Planned.

a) No Impact

The Project would not physically divide an established community and complies with the stated goals for the West Marin Planning Area of the Marin Countywide Plan. Land use policies and goals for the West Marin Planning Area include maintaining village character, avoiding larger scale development, and preserving historic structures, which the Project is in compliance with; therefore, there would be no impact.

b) Less Than Significant Impact

Consistency with State, Regional, and Local Plans and Programs

Land use plans, policies, and regulations that are applicable to the Project include the Plan Bay Area 2050 (ABAG and MTC 2021), Marin Countywide General Plan (Marin County 2007), Marin County’s Local Coastal Plan (LCP) (Marin County 1981), the Coastal Zone Management Act of 1972, and Marin County State Route 1 Repair Guidelines (Caltrans 2015).

Marin Countywide General Plan 2007

The Project would be consistent with the overall goals and policy framework for the different categories established within the Marin County General Plan and includes Project Features, as necessary, to protect resources established as valuable by the General Plan. The Project would comply with the goals from the Land Use section of the Marin County General Plan.

Although SR 1 is not officially designated as a State Scenic Highway, it is eligible and, therefore, Caltrans treats it as if it is designated, so as not to preclude a future designation of the highway. In accordance with this practice, the Project would be built to preserve the visual quality of the area.

Marin County Local Coastal Plan

The Marin County LCP document covers Unit 2 of Marin County's Coastal Zone, the coastal area from Olema north to the Sonoma County/Marin County border (Marin County 1981). The Project is within this planning unit of the LCP. The LCP is a land use plan for Marin County's coast to guide its future development and assure that coastal resources are properly used and protected.

Coastal Zone Management Act

The Project lies within the California Coastal Zone and resources within this zone are protected by the Coastal Zone Management Act of 1972 (CZMA). States with an approved coastal zone management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976 (CCA), to protect the coastal zone. The policies established by the CCA include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of ESAs or ESHAs; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission (CCC) is responsible for implementation and oversight under the CCA.

The CCA delegates power to local governments to enact their own local coastal plans (LCPs); in this case, the Marin County LCP (Marin County 1981). The state-certified LCP is a portion of the Marin County General Plan and includes visual resources policies and recommendations under the "Development" section of the CCA. The Marin County LCP determines the short- and long-term use of coastal resources in its jurisdiction consistent with the CCA goals.

The Project is entirely within the permitting jurisdiction of the California Coastal Commission, and Marin County’s certified LCP would serve as guidance.

The California Coastal Trail (CCT), within the Project corridor, generally follows the alignment of SR 1; where shoulders exist, it is confined to the shoulder of the highway.

The policies of the CCA (Public Resource Code Division 20) give the highest priority to the preservation and protection of Prime Agricultural Land and Timber Lands. On lands not needed for these purposes, the next priority goes to public recreation and visitor-serving facilities.

Key provisions of the CCA and the Marin County LCP are provided in Tables 3-1 and 3-2, along with an evaluation of permitting activities of the Project.

Table 3-1. Key Provisions of the California Coastal Act

Policy Number	Subject of Policy	Coastal Zone Assessment
Section 30210	Maximum public access and recreational opportunities shall be provided.	The Project would improve coastal public access by maintaining the safety and reliability of SR 1 and would maintain the existing CCT.
Section 30211	Development shall not interfere with public access to the sea.	The Project would maintain highway safety and reliability and continue to provide public access to the ocean as described previously.
Section 30212	New development projects shall provide for public access to the shoreline and along the coast.	The Project would not be considered new development.
Section 30252	Public access	The Project would maintain highway reliability and public access to SR 1 as described previously. The CCT would not be affected by the Project as there are no shoulders in the Project.
Section 30221	Recreation: Protect suitable oceanfront land for recreational use.	The Project would not impact public access to recreation facilities or oceanfront land.
Section 30233	Diking, filling, dredging of wetlands	The Project has been designed to avoid wetland impacts as much as possible. Potential wetland impacts would be mitigated to a no-net-loss level during the permitting phase.
Section 30235	Construction altering natural shoreline	The Project would not alter the natural shoreline of the Pacific Ocean. By replacing culverts and improving drainage, the Project would reduce erosion and sedimentation of downstream waters and the Pacific Ocean.

Policy Number	Subject of Policy	Coastal Zone Assessment
Section 30244	Archaeological/paleontological resources	The Project would not result in an adverse effect to archaeological and historical resources. No effects to paleontological resources are anticipated.
Section 30251	Scenic and visual qualities	The Project would not result in adverse effects to scenic vistas/resources in the Project study area. The Project was designed such that scenic and visual qualities of coastal areas would be protected as a resource of public importance. The Project would not alter natural landforms.
Section 30254	Public works facilities	With the Project, SR 1 would remain a two-lane coastal scenic highway.
Section 30604	Coastal development permits shall include a finding that the development is in conformity with public access and public recreation policies.	The Project would be in conformity with public access and public recreation policies.
Section 30609.5	State lands between the first and public roadway to the ocean	Caltrans would maintain the land devoted to the existing SR 1 highway and its use for public access to the ocean.
Section 30706	Coastal hazards	The purpose of the Project is to replace an aging and degrading culvert, thus restoring drainage flow and preventing culvert failure.

Table 3-2 Key Provisions of the Marin County Local Coastal Program

Policy Subject	Coastal Zone Assessment
Shoreline Access	The Project would improve coastal public access by increasing the safety and reliability of SR 1. This would be accomplished through minimizing emergency closures to SR 1, which would interfere with shoreline access to parks, beaches, and oceanfront land.
Recreation and Visitor-Serving Facilities	The Project would not interfere with public access to the ocean and the beach. Coastal recreation and visitor-serving facilities, including bicycle safety pullouts for public access, would be protected and maintained.
Transportation	The Project would improve coastal public access by increasing safety and reliability of SR 1.
ESHAs	Potential adverse effects to ESHAs have been reduced to the greatest extent practicable through Project features, AMMs, and mitigation. The Project would minimize impacts to ESHAs and mitigate for impacts to ESHAs, in the form of coastal waters, through onsite restoration (Mitigation Measures BIO-1 and BIO-3).
Agriculture	Although Prime Farmland and Marin Agricultural Land Trust resources exist within the Project study area, the Project would have no effect on these resources.
Public Works	The Project would not adversely affect public works in the Project study area. Caltrans would submit the Project to Marin County for review,

Policy Subject	Coastal Zone Assessment
	comments, and findings as to its conformity with the LCP during the coastal development permit process.
Coastal Watersheds	The Project would be consistent with Marin County's LCP, because it would improve highway reliability with a culvert replacement that would minimize erosion and sedimentation, which could harm coastal resources.
Visual and Scenic Resources	The Project would not result in adverse effects to scenic vistas/resources. The Project was designed such that scenic and visual qualities of coastal areas would be protected as a resource of public importance. The Project would not alter natural landforms.
Hazards	The purposes of the Project are to maintain continued connectivity for SR 1.
Archaeology	The Project would not result in an adverse effect to archaeological and/or historical resources. A Finding of No Historic Properties was determined for this Project under Section 106.
Air Quality	No long-term air quality impacts are anticipated from the Project.

Marin County State Route 1 Repair Guidelines

Caltrans, in coordination with CCC, State Parks, and Marin County, prepared the Marin County State Route 1 Repair Guidelines (Caltrans 2015) to promote stewardship and sustainability of state transportation resources through a shared vision with respect to coastal resources within the coastal zone. The Guidelines are not a policy plan but instead provide a framework to enable more timely repairs that are not only functional but are also consistent with the landscape, uses, and regulatory and land management policies associated with SR 1.

The relevant guidelines to the Project are listed in Table 3-3.

Table 3-3. Key Provisions of the Marin County State Route 1 Repair Guidelines

Design Guideline	SR 1 Repair Recommendation	SR 1 Repair Assessment of the Project
Parking, Pullouts, Unpaved Shoulders, and Turnouts	No net loss of parking, pullouts, or turnouts. Non-pavement treatments should be used where feasible. Other highway uses or development of the area beyond the shoulder should be minimized and fit in with the natural environment.	The proposed Project would have no effect on existing parking, pullouts, or turnouts. Other highway uses or development beyond the existing shoulder are not proposed.

Design Guideline	SR 1 Repair Recommendation	SR 1 Repair Assessment of the Project
Drainage Features	Drainage pipes should be hidden from view where feasible. Pipes that cannot be hidden should be colored with earth-tone coating to conceal them. Concrete drainage features should be colored to match adjacent earth tones. Drainage rock used as dissipaters should be colored earth tone to reduce visual impacts.	During PS&E, the proposed Project would be designed to include drainage features that are hidden or have earth tone colors to reduce visual impacts. Inlets would be sited outside of the highway pavement, where bicyclists are not likely to ride.
Ditches	Ditches should be designed to blend into the surrounding landscape. Concrete and metal facilities should be treated to match the surrounding terrain. Where appropriate, drainage ditches should be designed in conjunction with the shoulder to reduce the amount of pavement and widening needed, following the guidelines in Chapter 830 of the Highway Design Manual.	During PS&E, the Project and drainage ditches would be designed to reduce pavement and widening, and blend into the surrounding landscape.
Bicycles and Pedestrians	Pedestrians and bicyclists should be accommodated in all projects. Dedicated pedestrian facilities should be incorporated into projects on a case-by-case basis where there is an identified need and in coordination with local stakeholders.	The 0.2-mile Project corridor has no shoulders, and no shoulders are proposed as part of the Project. No dedicated pedestrian and bicycle facilities are part of the Project's scope.

The Project would be designed to be consistent with the Marin County SR 1 Repair Guidelines. Where the proposed culvert replacement would occur coincident with or along the existing CCT, the Project would accommodate pedestrian and bicycle users during construction. As there are no shoulders, there would be no CCT within the Project corridor; therefore no permanent impacts to the CCT would occur with the Project.

Existing SR 1 would remain open during construction, with implementation of temporary one-way traffic control as needed. Lane closures, existing pullout areas, and other Caltrans ROW would be used for construction parking, staging, and stockpiling of materials.

In summary, the Project would not conflict with any land use plan, policy, or regulation adopted to mitigate an environmental effect. The Project would be consistent with the Marin County General Plan, Marin County's LCP, the CZMA, the Marin County SR 1 Repair Guidelines, and other local, regional, and state policies. The Project would increase safety for vehicles, , and maintain coastal access. There would be a less than significant impact.

3.3.12 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

CEQA SIGNIFICANCE DETERMINATIONS FOR MINERAL RESOURCES

a, b) No Impact

The Project occurs within the Mineral Resource Zone (MRZ) category *MRZ-1*, which the California Geological Survey (CGS) designates as “*areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources*” (Miller 2013). Therefore, there would be no impact.

3.3.13 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?	No 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

CEQA SIGNIFICANCE DETERMINATIONS FOR NOISE

Four residential structures are located along Clark Road east of the northbound lane of SR 1, the nearest being approximately 250 feet northwest of the Project footprint. In addition, residential and agricultural structures are located along a private driveway approximately 500 feet southeast of the Project footprint. Construction-related activities for the Project would not occur within 50 feet of sensitive receptors.

a) Less Than Significant Impact

The Project would not permanently increase ambient noise levels for nearby residents in the vicinity of the Project. The Project would not increase SR 1 transportation capacity or increase long-term ambient noise levels.

The Project has the potential to expose noise-sensitive receptors that are approximately 250 to 500 feet from the Project footprint to a short-term increase in noise levels during construction, but the increase would be temporary. Construction is anticipated to require four nights of nightwork to remove the structural section of highway. Ambient noise levels may be temporarily increased at the noise-sensitive receptors due to various construction-related activities.

Noise associated with construction would be controlled by Caltrans Standard Specification 14-8.02, Noise Control, which limits maximum hourly noise levels (L_{max}) to 86 A-weighted decibels (dBA) at 50 feet from the Project from 9:00 p.m. to 6:00 a.m. PF-NOISE-1, includes the requirements of Caltrans Standard Specification 14-8.02, Noise Control.

AMM-NOISE-1 and AMM-NOISE-2 include public outreach to nearby noise-sensitive receptors and measures to avoid or minimize construction-related noise levels to noise-sensitive receptors.

b, c) No Impact

Construction would not require vibratory or impact pile driving. In addition, the nearest residential structure is located approximately 250 feet northwest of the Project footprint and would not be impacted by construction-related activities that generate excessive groundborne vibration. There would be no impact.

There are no airports or airstrips within the Project vicinity. There would be no impact.

PROJECT FEATURES

Caltrans would incorporate the following PF to reduce potential impacts to noise:

- **PF-NOISE-1, Nighttime Construction:** Construction noise levels would not exceed 86 dBA L_{max} at 50 feet from the Project footprint from 9:00 p.m. to 6:00 a.m. per 2018 Caltrans Standard Specifications 14-8.02, Noise Control. Noise resulting from construction-related activities would be controlled and monitored.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMMs to avoid or minimize potential impacts to noise:

- **AMM-NOISE-1, Public Outreach:** Public outreach would be required prior to the beginning of, and throughout, construction to update the public with upcoming construction-related activities and schedules. Public outreach may entail publishing public notices and updating the Project website.
- **AMM-NOISE-2, Construction Noise Levels:** The following measures would be implemented to avoid or minimize noise levels during construction where feasible:
 - Equip an internal combustion engine with a manufacturer-recommended muffler that is in good condition. Do not operate an internal combustion engine within the Project footprint without the appropriate muffler.
 - Do not idle construction equipment unnecessarily.

- Maximize the distance between stationary noise-generating construction equipment, such as air compressors and portable power generators, and noise-sensitive receptors.
- Ensure construction equipment conforms to Caltrans Standard Specification 14-8.02, Noise Control.

3.3.14 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

CEQA SIGNIFICANCE DETERMINATIONS FOR POPULATION AND HOUSING

a, b) No Impact

The Project would replace the culvert and rebuild the slope to restore drainage system functionality and prevent further damage to SR 1 and would not induce population growth directly or indirectly, displace existing people or housing, or necessitate the construction of replacement housing elsewhere. The Project would not build commercial or residential establishments. The Project would not increase SR 1 transportation capacity, as additional travel lanes would not be constructed. The Project would have no impact on population and housing.

3.3.15 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

CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES

a) Less Than Significant Impact

Construction of the Project would not result in the provision of new or physically altered governmental facilities or result in a need for new or physically altered governmental facilities, the construction of which has the potential to cause significant environmental impacts. There are no schools, parks, or other public facilities within the Project footprint. The following agencies provide public services for the Project corridor:

- Marin County Sheriff’s Office – Point Reyes Substation (4th Street, Point Reyes Station, CA 94956)
- Marin County Fire Department - Tomales Fire Station (599 Dillon Beach Road, Tomales, CA 94971) and Point Reyes Fire Station (4th Street, Point Reyes Station, CA 94956)
- Shoreline Unified School District (10 John Street, Tomales, CA 94971)

The Project would require full closure of SR 1 for approximately four nights. Otherwise, construction-related activities would be limited to daytime hours and would use one-way alternating traffic control to maintain the use of SR 1 for the traveling public and emergency service providers. Flaggers would be used at either end of the Project corridor to implement one-way alternating traffic control. Localized delays on SR 1 would result.

A TMP, as discussed in Section 3.3.17 and summarized in Appendix C, would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to avoid or minimize potential impacts to service ratios, response times, and other performance objectives for public services. The TMP would identify traffic delays/detours for emergency and medical vehicles associated with essential (i.e., public) services during full closure of SR 1 or one-way alternating traffic control. The TMP would provide priority to emergency and medical vehicles during full closure of SR 1 or one-way alternating traffic control, as well as provide notifications and instructions for rapid response or evacuation in the event of an emergency. Traffic impacts would be temporary during construction; therefore, impacts are anticipated to be less than significant.

3.3.16 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

CEQA SIGNIFICANCE DETERMINATIONS FOR RECREATION

There are no recreational facilities within the Project footprint. The nearest public park is the Miller Boat Launch, located approximately 1.6 miles north of the Project.

a, b) No Impact

The Project would not directly or indirectly increase the demand of existing recreational facilities such that substantial deterioration of the facilities would occur. In addition, the Project would not require the construction of additional recreational facilities. Therefore, there would be no impact.

3.3.17 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
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

CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION

SR 1 is a two-lane undivided highway within Project corridor. Travel lanes are approximately 9 feet wide, with no shoulders and no designated pedestrian or bicycle facilities. The Project would not increase SR 1 transportation capacity and therefore would not increase vehicle miles traveled (VMT).

a) Less Than Significant Impact

The Project would conflict with the *Marin County Unincorporated Area Bicycle and Pedestrian Master Plan* (Master Plan) (Marin County 2018), which analyzed existing pedestrian and bicycle corridors in Marin County and identified potential future improvements, and the *Caltrans District 4 Bike Plan for the San Francisco Bay Area* (Bike Plan) (Caltrans 2018), which analyzed existing bicycle travel and potential future improvements on SR 1. The Master Plan proposes Class IIr bikeways, which provide a striped lane for one-way travel in the same direction as the motor traffic, on SR 1 in rural Marin County within the Project corridor. However, Class IIr bikeways are not signed or stenciled on highways and/or roadways in order to maintain the rural character in Marin County. The Bike Plan identified Class II bikeways on SR 1 within the Project corridor as Mid-Tier Priority Improvement Projects that have lower, but still substantial amounts of, demand and existing challenges. The Project would not improve bicycle facilities within the Project corridor, and therefore would not address or accommodate the policies identified in the Master Plan and Bike Plan.

The Project would also conflict with Director’s Policy (DP) 37, Complete Streets (Caltrans 2021f). This DP requires that the Project, which is a capital project, provide “complete streets” facilities for pedestrians walking and bicyclists biking within the

Project footprints. The Project would not provide complete streets facilities and justification would be documented with final approval by the Caltrans District 4 Director.

The Project would not conflict with other programs, plans, ordinances, or policies regarding the circulation system, public transit, and bicycle or pedestrian facilities.

b) Less Than Significant Impact

The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). The Project would have less than significant impacts on VMT and therefore on transportation during construction because of temporary traffic control, including temporary lane closures. The Project would have no permanent impact on VMT and would cause no permanent impacts on transportation.

c) No Impact

The Project would not increase hazards because of a geometric design feature. The Project does not include any design features or Project components that would substantially increase hazards. There would be no impact.

d) Less Than Significant Impact

The Project would not result in inadequate emergency access. With implementation of a Traffic Management Plan (TMP), emergency and medical vehicles associated with essential (i.e., public) services would be given priority to use SR 1 for fire, medical, emergency and law enforcement purposes. The Project could cause short-term, localized traffic congestion and delays resulting from full closure of SR 1 or one-way alternating traffic control during construction. The TMP would identify traffic delays/detours.

To protect construction workers and the traveling public, one-way alternating traffic control would be in place while construction-related activities are underway. A detailed TMP (AMM-TRANS-1) would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and providing further safety measures for those accessing the Project corridor during construction. Therefore, impacts would be less than significant.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate the following AMM to avoid or minimize potential impacts to transportation:

- **AMM-TRANS-1, Transportation Management Plan:** A TMP would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and providing further safety measures for those accessing SR 1 within the Project corridor during construction. The TMP would identify traffic delays/detours for, and provide priority to, emergency and medical vehicles associated with essential (i.e., public) services during full closure of SR 1 or one-way alternating traffic control, thereby avoiding or minimizing short-term, localized traffic congestion and delays. Notifications and instructions for rapid response or evacuation in the event of an emergency would be provided.

3.3.18 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	No Impact
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

CEQA SIGNIFICANCE DETERMINATIONS FOR TRIBAL CULTURAL RESOURCES

a) No Impact

To comply with Section 106 and Assembly Bill 52, Caltrans initiated consultation with Native American tribes (i.e., Federated Indians of Graton Rancheria [FIGR], Guidiville Indian Rancheria, and Wuksache Indian Tribe/Eshom Valley Band) and individuals. Letters were sent on December 8, 2021. To date, Caltrans received a response from the FIGR requesting formal consultation regarding the Project. Consultation is ongoing (Busse 2022b). The previously recorded archaeological resource (P-21-000030/CA-MRN-613, a precontact shell midden site) identified within the approximately 0.25-mile radius of the archaeological APE is not listed on the California Register of Historical Resources or a local register of historical resources.

b) Less Than Significant Impact

The previously recorded archaeological resource (P-21-000030/CA-MRN-613, a precontact shell midden site) identified within the approximately 0.25-mile radius of the archaeological APE is anticipated to be eligible for the NRHP. Potential impacts can be avoided or minimized with implementation of AMM-CULT-1. The impact would be less than significant.

3.3.19 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?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR UTILITIES AND SERVICE SYSTEMS

There are overhead electrical utility lines and poles within the Project footprint. The Project is anticipated to require the relocation of the utility pole immediately south of the culvert. Utility relocations would occur prior to the beginning of construction and in consultation with utility providers (i.e., PG&E, AT&T, and Verizon)

a) Less Than Significant Impact

The Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or natural gas facilities. The Project is not anticipated to require utility relocations for gas, water, and sewer systems. However, the Project is anticipated to require the relocation of the utility pole immediately south of the culvert. Utility verification is anticipated to be required for the Project. If required, utility verification (i.e., potholing) would occur during the PS&E phase to confirm the need for utility relocations, and if needed, utility relocations would occur prior to the beginning of construction and in consultation with utility providers (i.e., PG&E, AT&T, and Verizon). Therefore, impacts to electric power and telecommunications facilities would be less than significant and there would be no impacts on water, wastewater treatment or stormwater drainage, and natural gas.

b, c, d, and e) No Impact

The Project would not require the services of a landfill where the Project would impact its capacity. The Project would not exceed wastewater treatment requirements. The Project would not require water supplies to serve the Project from existing entitlements or where the Project would impact new or expanded entitlements. The Project would not require the services of a wastewater treatment provider where the Project would impact the provider's capacity. All construction-related waste would be properly disposed of, or recycled, at an approved facility in compliance with both Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, and the requirements of the facility to which the construction-related waste is hauled. Construction-related activities would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. Therefore, there would be no impacts.

3.3.20 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?	Less Than significant 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?	Less Than significant impact

CEQA SIGNIFICANCE DETERMINATIONS FOR WILDFIRE

The Project is located within an SRA and is not within a High Fire Hazard Severity Zone (CAL FIRE 2007 and 2022). The Marin County Fire Department provides fire suppression, rescue, and emergency services within the Project corridor (Marin County 2022b). The Marin County Fire Service created the Mt. Tamalpais Threat Zone Plan (MTZ Plan) for wildland urban interface fires on and around Mt. Tamalpais in 2005 (Marin County 2022c). The goal of the MTZ Plan was to define roles, responsibilities, authorities, and a framework for organization, including maps that defined areas to include Structure Protection Zones and evacuation routes (Marin County 2022c). While the MTZ Plan was expanded in 2008 to include all of the wildland urban interface areas in Marin County, including additional maps for expanded areas, the Project is not located within a Structure Protection Evacuation Zone or Wildland Urban Interface Zone (Marin County 2022c). Further, the Project does not fall within a designated evacuation zone as identified by Marin County (Marin County 2022c, Fire Safe Marin 2022).

a, b, c, and d) Less Than Significant Impact

A TMP, as discussed in Section 3.3.17 and summarized in Appendix C, would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to avoid or minimize potential impacts to transportation. The TMP would identify traffic delays/detours for emergency and medical vehicles

associated with essential (i.e., public) services during full closure of SR 1 or one-way alternating traffic control and would provide notifications and instructions for rapid response or evacuation in the event of an emergency, such as a wildfire. The TMP would aid in coordinating and providing further safety measures for those accessing SR 1 within the Project corridor during construction. In the event of a wildfire, the TMP would be implemented. The Project would not exacerbate wildfire risks or expose people or structures to significant risks. Therefore, the Project would have a less than significant impact.

3.3.21 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

CEQA SIGNIFICANCE DETERMINATIONS FOR MANDATORY FINDINGS OF SIGNIFICANCE

a) Less Than Significant Impact with Mitigation Incorporated

As determined in Section 3.3.4, the Project is not anticipated to have adverse direct or indirect impacts to the federally and state listed special-status species. The Project is not anticipated to have substantial adverse effect on state or federally protected wetlands, or to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Direct and indirect impacts to plants and wildlife species would be reduced, avoided, minimized, or mitigated through the implementation of PFs, AMMs, and MMs. The Project would not have a substantial adverse effect on riparian habitat or environmentally sensitive natural communities when mitigation is incorporated.

The Project would temporarily and permanently impact ESHAs. The Project would mitigate impacts to ESHAs with implementation of MM-BIO-1. Temporary impacts to ESHAs will be mitigated at a ratio of 1:1. Permanent impacts to ESHAs and aquatic resources will be mitigated at a ratio of 3:1. The Project would also require removal of two arroyo willow trees. The Project will implement MM-BIO-2 and replace the trees at a ratio of 3:1.

No cultural resources or major periods of California history or prehistory are located within the Project footprint. Therefore, the impact would be less than significant.

b) Less than Significant Impact

A review of projects in the vicinity (e.g., Marin State Route 1 Lagunitas Creek Bridge Project, Marin State Route 1 Capital Preventive Maintenance Project, and Marin State Route 1 Bridge Rail Replacement Project) of the Project determined that no past, present, or future projects would pose a cumulative effect together with implementation of the Project. For biological resources, no cumulative impacts are anticipated due to the implementation of the PFs, AMMs, and MMs. With respect to population and housing, the Project would not be growth inducing. With respect to land use and planning, the Project is aligned with the goals of the Marin Countywide Plan. With respect to transportation, the Project would not address or accommodate the policies identified in the Master Pedestrian Plan and Bike Plan, and would conflict with DP 37 Complete Streets. With these considerations, the Project would not have cumulatively considerable impacts; the impact would be less than significant.

c) Less Than Significant Impact

The Project would have no impact on agriculture and forest resources, mineral resources, population and housing, and recreation. The Project would potentially affect aesthetics, air quality, cultural resources, energy, geology, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, land use and planning, public services, transportation, tribal cultural resources, utilities and service systems, and wildfire; however, these potential impacts would be less than significant. The Project would implement PFs and AMMs to reduce, avoid, or minimize adverse impacts to these resources. Construction-related activities would temporarily increase criteria air pollutant emissions, ambient noise levels, and emergency response times and the Project would incorporate PFs and AMMs to reduce, avoid, or minimize potentially adverse effects to humans. Therefore, the Project would not have a substantial direct or indirect impact on the human environment, and impacts would be less than significant.

Chapter 4 Community Outreach and Consultation and Coordination with Public Agencies

To date, public and agency coordination consists of the activities described in the following sections.

4.1 Public Involvement Process for the Draft Initial Study with Proposed Negative Declaration

The general public was involved in the Project development process through solicitation for feedback on the Draft IS with Proposed MND during a 45-day comment period, which began on November 21, 2022, and ended on January 5, 2023.

Hard copies of the SR 1 Culvert Replacement Project Draft IS/MND were made available to the public at the Point Reyes Library and Tomales Post Office. An electronic copy of the SR 1 Culvert Replacement Project Draft IS/MND was made available to the public at the District 4 Environmental Documents by County website (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>).

A Notice of Completion was published by the State Clearinghouse on December 5, 2022. The Project was assigned State Clearinghouse #2022120084. The State Clearinghouse distributed copies of the Draft IS/MND to agencies for comments.

Caltrans received one comment submittal from CCC during the public comment period. Caltrans responses to the comment is included in Appendix F. The comments in the letter have been addressed by members of the Project Development Team whose specialty covers the subject matter of each comment.

4.2 Consultation and Coordination with Public Agencies

Consultation with agencies occurred during the environmental evaluation process. A list of coordination activities and contacts is provided in Table 4-1.

Table 4-1. Consultation and Coordination with Public Agencies

Organizations	Date	Topic
NAHC	November 1, 2021	Lindsay Busse received an email from the NAHC stating that the Sacred Lands File search request was negative and was provided contact information for interested Native American Parties in the Project corridor to consult.
USFWS	March 17, 2022	Rachel Cotroneo requested technical assistance from John Cleckler of the USFWS.
SLC	June 20, 2022	Sam Schoevaars received an email from the SLC stating that Marin County APN 104-220-07 is privately owned and not subject to an SLC lease.
USFWS	September 14, 2022	Rachel Cotroneo sent the draft Project Description figures to John Cleckler of the USFWS for review.
USFWS	September 27, 2022	Rachel Cotroneo sent the final Biological Assessment to John Cleckler of the USFWS.
Marin County	September 28, 2022	Sam Schoevaars sent an email to Marin County regarding preliminary design.

Notes:

APN = Assessor's Parcel Number

NAHC = Native American Heritage Commission

SLC = State Lands Commission

USFWS = U.S. Fish and Wildlife Service

Chapter 5 List of Preparers and Reviewers

The primary people responsible for contributing to, preparing, and reviewing this IS/MND are summarized in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Maxwell Lammert	Office Chief (Acting), Office of Environmental Analysis
Caltrans	Arnica MacCarthy	Senior Environmental Planner, Office of Environmental Analysis
Caltrans	Saman Soheilifard	Project Manager, Division of Program/Project Management
Caltrans	Jessica Thaggard	Branch Chief (Acting), Office of Biological Sciences and Permits
Caltrans	Robert Blizzard	Branch Chief, Office of Biological Sciences and Permits
Caltrans	Jonathan Hogg	Environmental Scientist, Office of Biological Sciences and Permits
Caltrans	Helen Blackmore	Branch Chief (Architectural History), Office of Cultural Resource Studies
Caltrans	Douglas Bright	Associate Environmental Planner (Architectural History), Office of Cultural Resource Studies
Caltrans	Kathryn Rose	Branch Chief (Archaeology), Office of Cultural Resource Studies
Caltrans	Lindsay Busse	Environmental Scientist (Archaeology), Office of Cultural Resource Studies
Caltrans	Kevin Krewson	Office Chief, Office of Environmental Engineering
Caltrans	Robert Hugel	Branch Chief (Acting), Office of Environmental Engineering
Caltrans	Radhika Mothkuri	Transportation Engineer, Office of Environmental Engineering
Caltrans	Nandini Vishwanath	District Branch Chief, Office of Environmental Engineering – Hazardous Waste
Caltrans	Marisol Marin	Transportation Engineer, Office of Environmental Engineering – Hazardous Waste
Caltrans	Chris Riden	Branch Chief, Office of Geotechnical Design – West
Caltrans	Mark Morancy	Branch Chief, Office of Hydraulic Engineering
Caltrans	Joaquin Pedrin	Branch Chief, Office of Landscape Architecture – North Counties
Caltrans	Chris Else	Landscape Architecture Associate, Office of Landscape Architecture
Caltrans	Wesley Bexton	Landscape Architecture Associate, Office of Landscape Architecture

Organization	Name	Role
Caltrans	Mojgan Osooli	Branch Chief, Office of Water Quality
Caltrans	Brian Rowley	Branch Chief, Office of Water Quality
Caltrans	Andrew Chuong	Transportation Engineer, Office of Water Quality
Caltrans	Mostafa Mo Faghihi	Transportation Engineer, Office of Water Quality
Caltrans	Ram Bommavaram	Regional Project Manager, Project Management North – Marin County
Caltrans	Richie Perez	Branch Chief, Office of Design Support
Caltrans	Braxton Waxdeck	Transportation Engineer, Office of Roadway Design and Utility Engineering
Caltrans	Alex McDonald	Branch Chief, Office of Landscape Architecture
Caltrans	Ephrem Shifa	Project Engineer, Office of Design Support
Caltrans	Joy Cheung	Construction Manager, Office of North Bay Construction
Caltrans	Jose Mario David	Construction Engineer, Office of Construction – Marin County
Jacobs	Kevin Fisher	Senior Biologist
Jacobs	Jack Gordon	Biologist
Jacobs	Patricia Ambacher	Senior Cultural Resources Specialist
Jacobs	Hong Zhuang	Senior Environmental Engineer
Jacobs	Yassaman Sarvian	Senior Environmental Planner
Jacobs	Joe Aguirre	Environmental Planner
Jacobs	Morgan Angulo	Environmental Planner
Jacobs	Erik Lauritzen	Environmental Planner
Jacobs	Ryo Nagai	Environmental Planner
Jacobs	Will Packard	Environmental Planner
Jacobs	Sam Schoevaars	Environmental Planner
Jacobs	Tara Zuroweste	Environmental Planner
Jacobs	Yerandy Pacheco	Transportation Planner
Jacobs	Valisa Nez	Senior Environmental Planner
Jacobs	Loretta Meyer	Senior Environmental Planner
Jacobs	Chris Archer	Geospatial Professional
Jacobs	Clarice Ericsson	Publications Technician
Jacobs	Bryan Bell	Senior Technical Editor
Jacobs	Jenny Sullivan	Technical Editor

Chapter 6 Circulation List

This final IS/MND will be sent to the following agencies and elected officials.

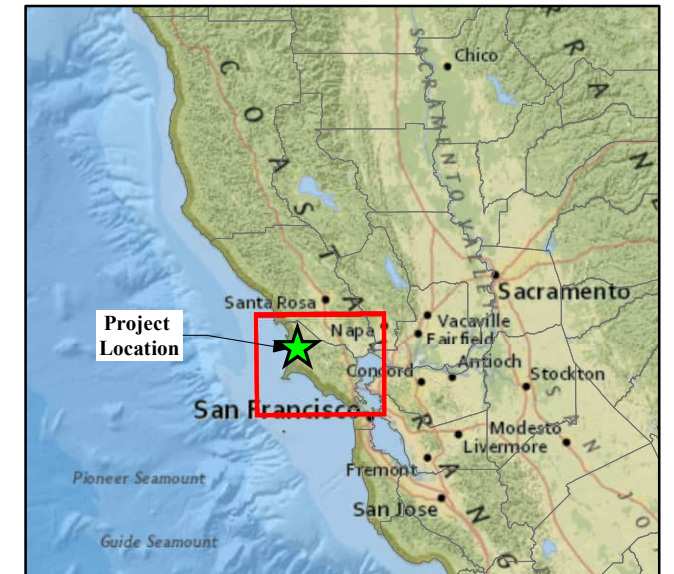
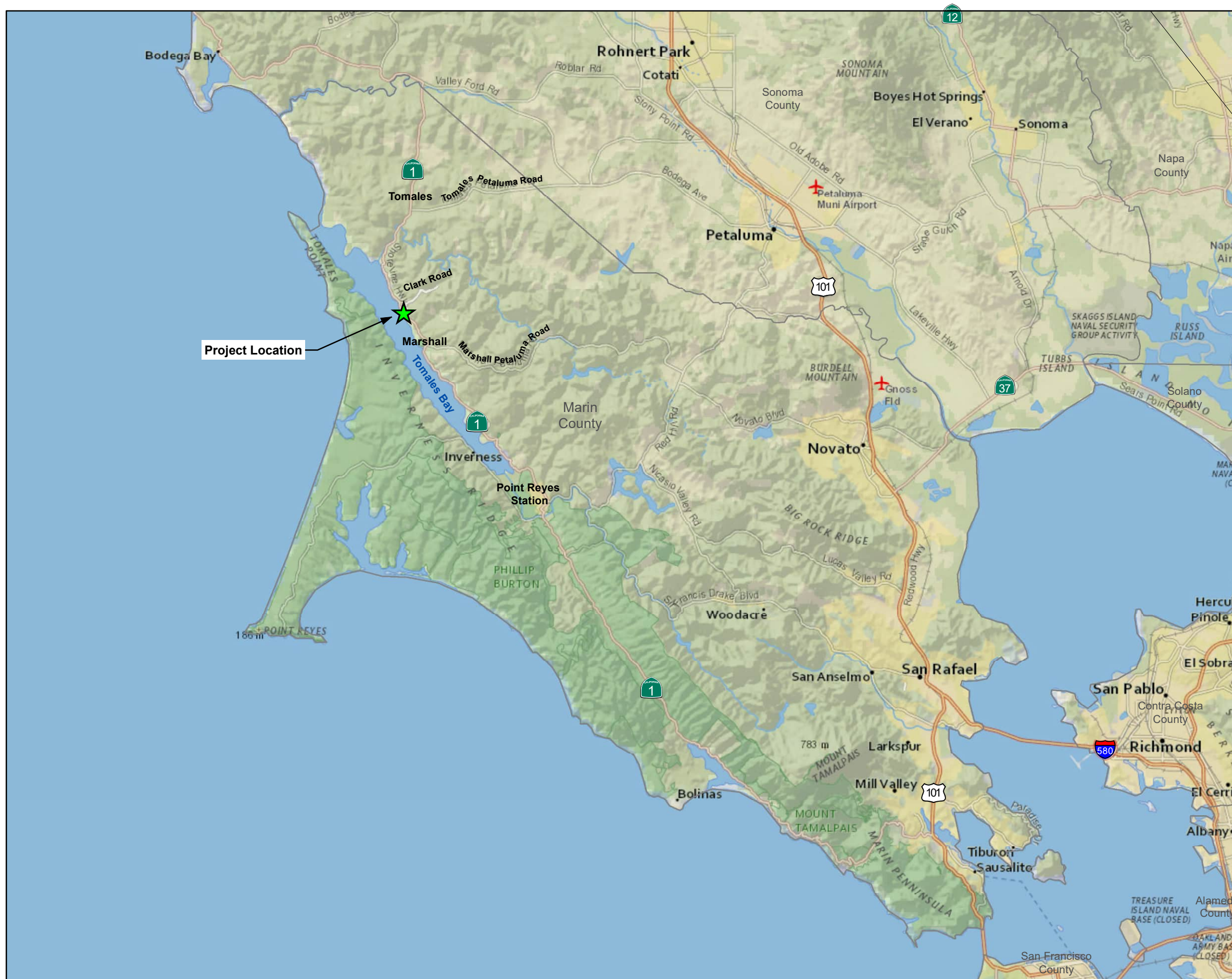
6.1 Agencies

- Bay Area Air Quality Management District
- California Coastal Commission
- California Department of Conservation
- California Department of Fish and Wildlife
- California Department of Forestry and Fire Protection
- California Department of Toxic Substances Control
- California Transportation Commission
- Marin Agricultural Land Trust
- Marin County Bicycle Coalition
- Marin County Community Development Agency, Planning Division
- Marin County Fire Department
- Marin County Sheriff's Office
- National Oceanographic and Atmospheric Administration Fisheries
- San Francisco Bay Regional Water Quality Control Board
- Shoreline Unified School District
- State Water Resources Control Board
- Transportation Authority of Marin
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

6.2 Elected Officials

- The Honorable Dianne Feinstein
- The Honorable Alex Padilla
- The Honorable Jared Huffman (CA-2)
- The Honorable Mike McGuire (SD 2)
- The Honorable Marc Levine (AD 10)
- The Honorable Dennis Rodoni (District 4)

Appendix A Figures



Legend
 ★ Project Location

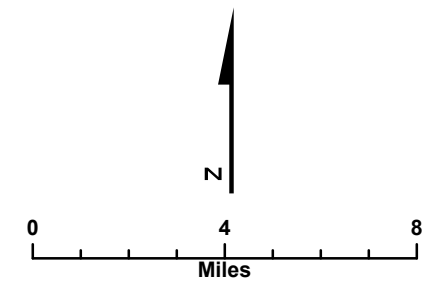
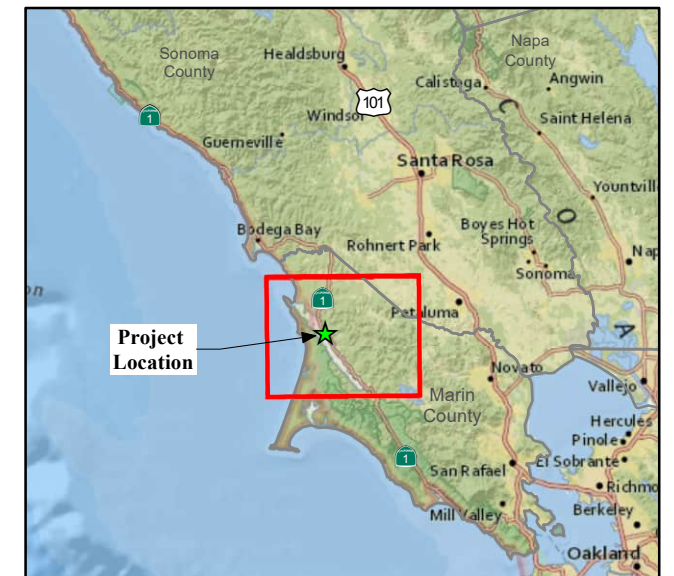
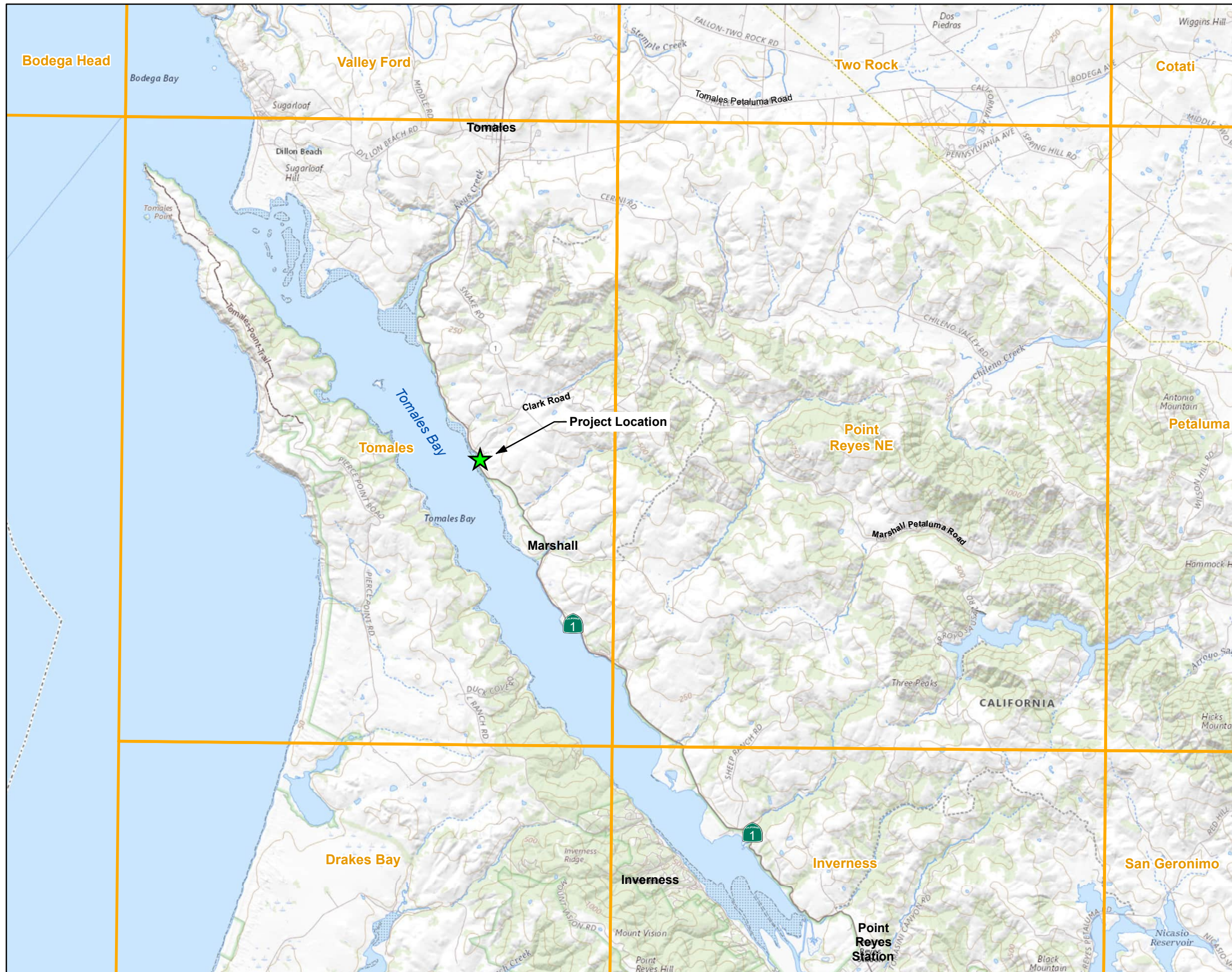




FIGURE 1-1
Regional Location
 State Route 1 Culvert Rehabilitation Project
 EA 04-2J510, MRN-1-40.3
 Marin County, California



Legend

-  Project Location
-  USGS 7.5 Minute Quadrangle

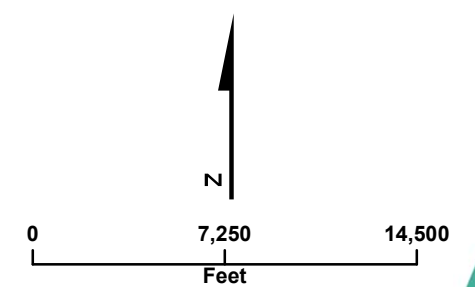
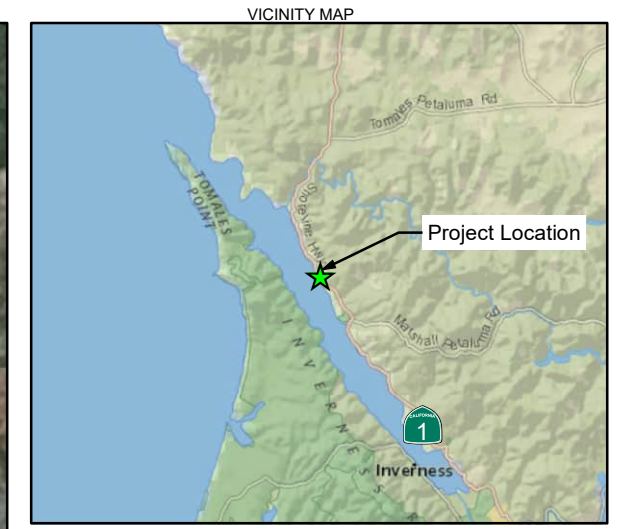
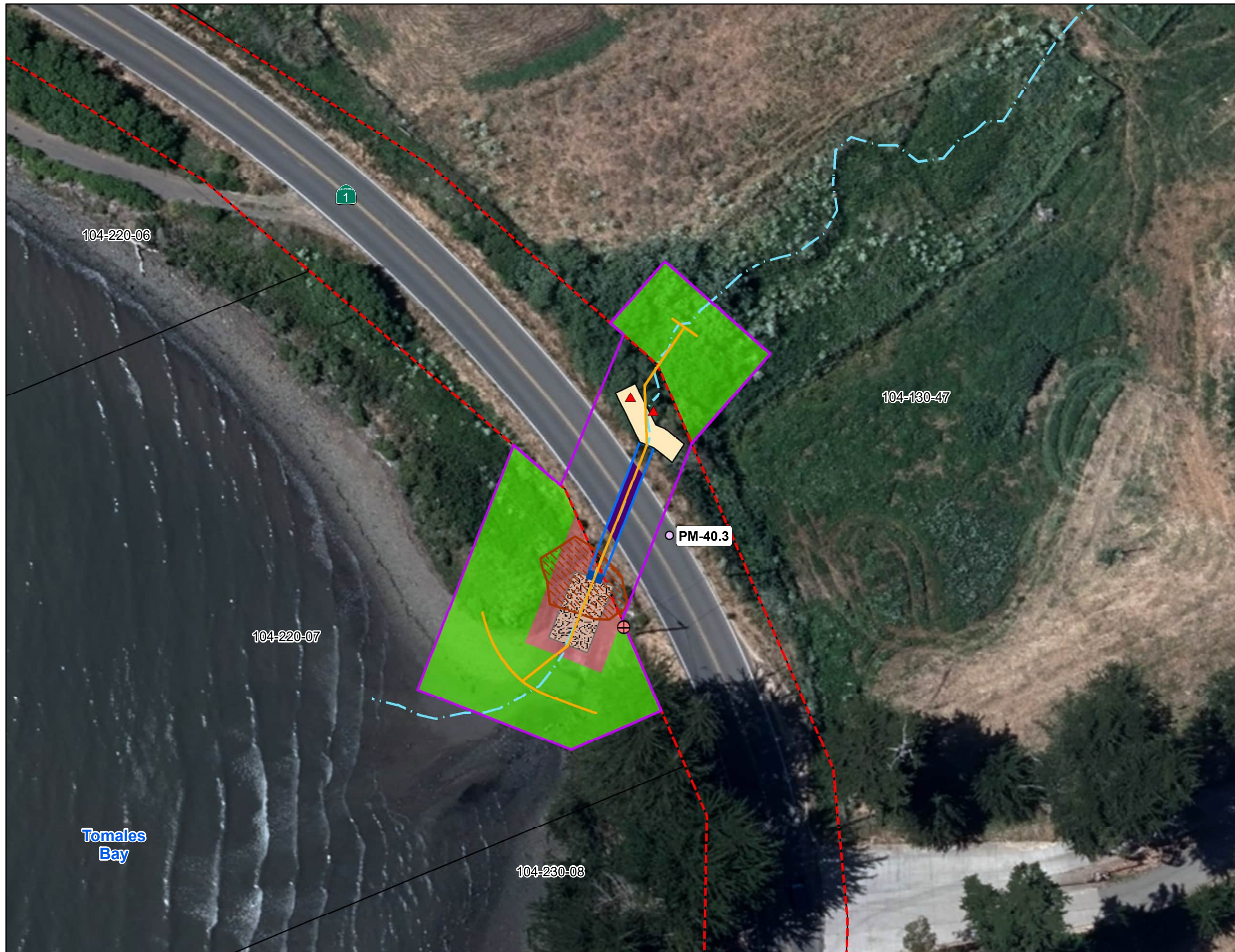


FIGURE 1-2
Project Location
 State Route 1 Culvert Rehabilitation Project
 EA 04-2J510, MRN-1-40.3
 Marin County, California



- LEGEND**
- Post Mile
 - ▭ Marin County Parcels
 - - - Caltrans Right of Way
 - ▭ Project Footprint
 - ▭ Remove / Replace Culvert
 - ▭ Extend Culvert
 - ▭ Construct Wingwalls
 - ▨ Remove Rock Slope Protection / Excavate Slipout and Rebuild Slope
 - ▨ Install Rock Slope Protection
 - ▭ Remove / Replace Structural Section
 - ▭ Install Temporary Creek Diversion System
 - ⊕ Relocate Utility Pole
 - ▲ Remove Tree
 - ▭ Right of Way Acquisition / Temporary Construction Easement
 - ▭ Right of Way Acquisition / Permanent Drainage Easement
 - ~ Marin County Stream Centerlines

Imagery Source:
 ESRI, Maxar 2021
Streams:
 lidar derived NHD created by NV5 Geospatial (NV5) from 2019 lidar data

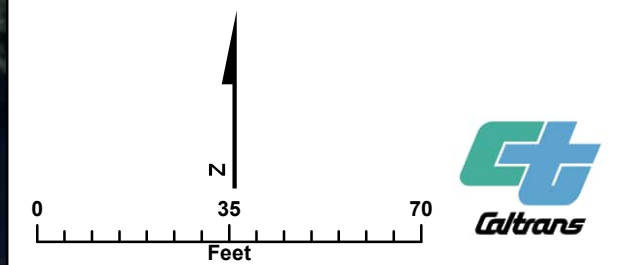
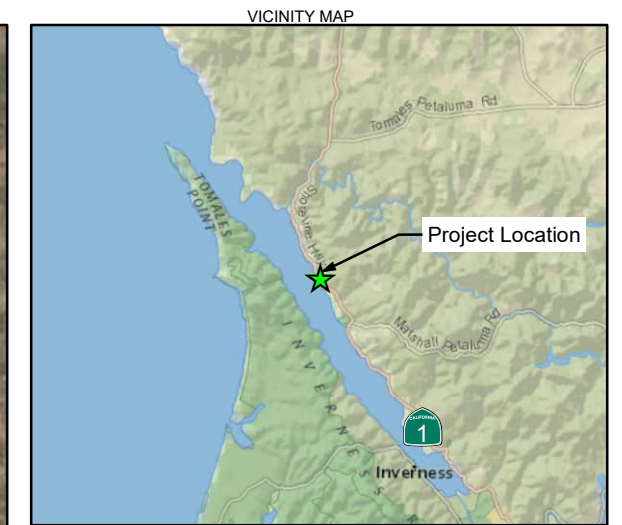


Figure 1-3
Map 1 of 2
Project Components
 State Route 1 Culvert Rehabilitation Project
 EA 04-2J510, MRN-1-40.3
 Marin County, California



LEGEND

- Post Mile
- ▭ Marin County Parcels
- - - Caltrans Right of Way
- ▭ Project Footprint
- ▨ Staging Area

Imagery Source:
 ESRI, Maxar 2021
Streams:
 lidar derived NHD created by NV5 Geospatial (NV5)
 from 2019 lidar data

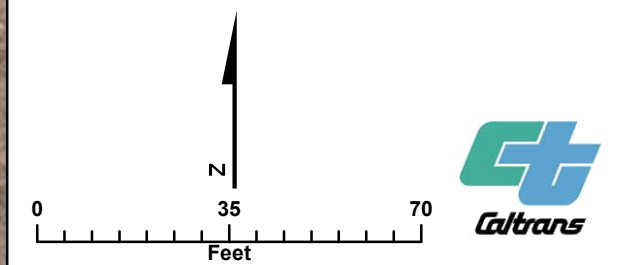


Figure 1-3
Map 2 of 2
Project Components
 State Route 1 Culvert Rehabilitation Project
 EA 04-2J510, MRN-1-40.3
 Marin County, California

Appendix B Title VI Policy Statement

California Department of Transportation

OFFICE OF THE DIRECTOR
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September 2022

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *“No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in black ink, appearing to read 'Tony Tavares'.

TONY TAVARES
Director

Appendix C Summary of Project Features, Avoidance and Minimization Measures, and Mitigation Measures

Project Features

- **PF-AES-1: Construction Equipment and Materials Storage.** Store, and cover where possible, construction equipment and materials in screened staging areas beyond the direct view of the traveling public and adjacent rural residential properties to the extent feasible.
- **PF-AES-2: Nightwork.** For nightwork, limit construction lighting to the Project footprint for construction-related activities, and use directional lighting, shielding, and other measures as needed to reduce light trespass to the traveling public and to adjacent rural residences.
- **PF-AQ-1: Dust Control Measures.** Implement dust control measures to reduce airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 1 and other public roadways affected by construction traffic, and covering soils or materials and/or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.
- **PF-AQ-2: Construction Vehicles and Equipment.** Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.
- **PF-AQ-3: Limit Idling.** Limit idling times either by shutting construction equipment off when not in use or reducing the maximum idling time to 5 minutes.
- **PF-BIO-1: Permit Compliance Binder.** An on-site Permit Compliance Binder would be maintained by the Caltrans construction liaison at all times and presented to agency (CCC, CDFW, NOAA Fisheries, San Francisco Bay RWQCB, USACE, and/or USFWS) personnel upon request. The Permit Compliance Binder would include a copy of all original PLACs, as well as any extensions and/or amendments to PLACs.

- **PF-BIO-2: Work According to Documents.** Except as they are contradicted by measures within the PLACs, all construction-related activities would be conducted in conformance with the Project description, AMMs, and MMs in the PLACs, as well as the PFs, AMMs, and MMs in this IS/MND.
- **PF-BIO-3: Water Diversion Plan.** The Contractor would prepare a water diversion plan, which would be reviewed and approved by Caltrans and the appropriate agencies prior to the beginning of construction. The agency-approved water diversion plan would detail the final TCDS design to be installed to convey water through the BSA during construction.
- **PF-BIO-4: Work During Periods of Dry Weather.** Construction-related activities in the bed, bank, channel, and any associated riparian habitat would occur during periods of dry weather. Forecasted precipitation would be monitored by the RE or designee. When approximately 0.25 inch or more of precipitation (qualifying rain event) is forecasted to occur, construction-related activities would stop and erosion control BMPs would be installed prior to the onset of precipitation. After qualifying rain events, the BSA would be inspected for erosion and sediment problems and corrective action would be taken as needed; 72-hour weather forecasts from the National Weather Service would be consulted and work would not resume until surface runoff ceases and there is less than a 50 percent forecast for a qualifying rain event in the next 24-hour period.
- **PF-BIO-5: Delineate Environmentally Sensitive Areas.** Prior to the beginning of construction, ESAs within the BSA would be clearly delineated by a biological monitor using high visibility orange fencing, flagging, or similar markings. ESA fencing would remain in place throughout construction, though it may be removed during the wet season (and subsequently re-installed) if needed to prevent construction materials from being washed away. The final Project plans would depict all locations where ESA fencing would be installed. The final Project SSPs would clearly describe acceptable fencing and prohibited construction-related activities, vehicles, equipment, and materials storage within ESAs. ESA fencing would be maintained in good repair throughout the duration of construction.
- **PF-BIO-6: Wildlife Exclusion Fencing.** Prior to the beginning of construction, at the discretion of the biological monitor, WEF would be installed within the BSA in areas where wildlife could enter the BSA. At the discretion of the biological monitor, WEF may be removed at times when construction is no longer

active in the area. All WEF would be removed following completion of construction-related activities.

- **PF-BIO-7: Nesting Bird Surveys.** If construction-related activities occur between February 1 and September 30, a biological monitor would conduct preconstruction surveys for nesting birds. The survey would include a perimeter buffer of approximately 50 feet for non-game migratory birds and approximately 300 feet for raptors. All nest avoidance requirements of the Migratory Bird Treaty Act, USFWS, and CDFW would be observed. If an active nest is found, an appropriate protection buffer would be established until the young fledge. USFWS and/or CDFW would be contacted within 24 hours if a special-status species is discovered within the BSA.
- **PF-BIO-8: Invasive Weed Control.** To reduce the spread of invasive, non-native plant species and the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with EO 13112. The purpose of EO 13112 is to prevent the introduction of invasive species and provide for their control to reduce the economic, ecological, and human health effects. If invasive species are disturbed or removed during construction-related activities, the contractor would be required to contain the plant material associated with these invasive species and dispose of them in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all PLACs, and environmental clearances for proper disposal. Areas subject to noxious weed removal or disturbance would be hydroseeded with fast growing locally appropriate, commercially available native grasses or an erosion control mixture of locally appropriate, commercially available native seed species. Where seeding is not practical, the target areas within the BSA would be covered to the extent practicable with heavy black plastic solarization material.

If work occurs in ESHAs, construction vehicles and equipment would be thoroughly cleaned prior to arriving on the construction site to prevent the spread of invasive species from other locations.

- **PF-BIO-9: Vegetation Removal and Tree Trimming.** Vegetation would be removed, and trees trimmed, only where necessary, and vegetation would be cut above soil level, except where excavations and permanent impacts would occur, to allow plants that reproduce vegetatively to resprout after construction.

- **PF-BIO-10: Restore Disturbed Areas.** Temporarily disturbed areas, including those in which the existing RSP was installed under the DO and would be removed as part of the Project, would be restored. Exposed slopes and bare ground would be reseeded with locally appropriate, commercially available native grasses to stabilize bare soil and prevent erosion.
- **PF-BIO-11: Prevent Inadvertent Entrapment.** To prevent inadvertent entrapment of wildlife species during construction, all excavated, steep-walled holes or trenches dug more than approximately 1-foot below ground surface would be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than approximately 30 degrees. Holes and trenches would be thoroughly inspected for trapped wildlife species prior to filling. Pipes, culverts, or similar structures stored in the BSA would be inspected before they are moved, capped, or buried.
- **PF-CULT-1: Inadvertent Archaeological Discoveries.** If buried archaeological resources are discovered during ground-disturbing activities, work would cease until a Caltrans qualified archaeologist can assess the nature and significance of the resource and appropriate AMMs are implemented. The need for monitoring during the remainder of the Project would be reevaluated. The Caltrans qualified archaeologist would consult with appropriate Native American tribes in determining suitable treatment for inadvertent archaeological discoveries if the resource is Native American in nature.
- **PF-CULT-2: Discovery of Human Remains.** If human remains are discovered during ground-disturbing activities, construction-related activities within a 100-foot radius of the find would be halted immediately and the Caltrans qualified archaeologist would be notified within 24 hours. The Caltrans qualified archaeologist would immediately notify the Marin County coroner. The Marin County coroner is required to examine the find within 48 hours of receiving notification of such a discovery. If the Marin County coroner determines that the human remains are those of a Native American, the NAHC would be contacted by phone within 24 hours of making the determination (California Health and Safety Code Section 7050.5[c]). The Caltrans qualified archaeologist would notify Native American tribes of discovered human remains. The NAHC would contact the MLD, as determined by the NAHC, regarding the discovered human remains. The MLD, in cooperation with the adjacent property owner and the Caltrans

qualified archaeologist, would determine the ultimate disposition of the human remains.

- **PF-ENERGY-1: Recycle Nonhazardous Waste and Excess Construction Materials.** Recycle nonhazardous waste and excess construction materials offsite to reduce disposal, if feasible.
- **PF-ENERGY-2: Solar Energy.** Use solar energy as the energy source for construction equipment, such as, but not limited to, signal boards, if feasible.
- **PF-HYD-1: Construction and Implementation of Erosion Control, Construction Site, and Water Pollution Control Best Management Practices.** Erosion control BMPs would be included in the final Project plans and SSPs to comply with the conditions of the Caltrans NPDES permit. The Caltrans BMP Guidance Handbook (Caltrans 2017) would provide guidance for SSPs for measures to protect delineated ESAs and reduce stormwater and non-stormwater discharges. Construction site BMPs may include, but are not limited to, the following:
 - Soil stabilization
 - Sediment control
 - Wind erosion control
 - Tracking control
 - Non-stormwater management

Erosion control and water pollution control BMPs would be prepared and implemented during construction to reduce wind- or water-related erosion. BMPs would follow the requirements of Section 401 of the Clean Water Act under the jurisdiction of the RWQCB and the standards outlined in the Caltrans BMP Guidance Handbook (Caltrans 2017).

The following restrictions would be implemented to reduce potential impacts on hydrology and water quality:

- Enforce a speed limit of 15 miles per hour for construction vehicles and equipment in unpaved portions of the Project footprint to reduce dust and excessive soil disturbance.
- Locate construction access, staging, storage, and parking areas within Caltrans ROW and outside of delineated ESAs to the extent practicable. Construction

- staging areas and storage of equipment and materials would be limited to the minimum necessary to construct the Project. ESAs would be clearly delineated prior to the beginning of construction.
- Certify, to the maximum extent practicable, that imported borrow material is nontoxic and weed-free.
 - Enclose food and food-related waste in sealed containers and remove them from the Project footprint at the end of each working day.
 - Prohibit pets from entering the Project footprint during construction.
 - Prohibit firearms within the Project footprint, except for those carried by authorized security personnel or local, state, or federal law enforcement.
- **PF-HYD-2: Water Pollution Control Program.** A WPCP would be prepared by the contractor and approved by the Caltrans Water Quality Specialist, pursuant to the Caltrans Standard Specifications Section 13, Water Pollution Control, and the Caltrans WPCP Preparation Manual, and implemented prior to the beginning of construction.
 - **PF-NOISE-1: Nighttime Construction.** Construction noise levels would not exceed 86 dBA L_{max} at 50 feet from the Project footprint from 9:00 p.m. to 6:00 a.m. per 2018 Caltrans Standard Specifications 14-8.02, Noise Control. Noise resulting from construction-related activities would be controlled and monitored.

Avoidance and Minimization Measures

- **AMM-AES-1: Removal of Trees and Vegetation and Revegetation of Disturbed Areas.** Tree and vegetation removal would be minimized to the extent feasible. Temporary exclusion fencing would be used to protect the trees and vegetation outside of clearing and grubbing limits from construction-related activities. Disturbed areas would be restored and treated with erosion control and revegetated with locally appropriate, commercially available native seed species.
- **AMM-AES-2, Compliance with Project Design Features included in the Final Marin SR 1 Repair Guidelines:** The Project design process will include compliance with the Final Marin SR 1 Repair Guidelines including the following:

- Soil-fill and vegetate RSP to the maximum extent practicable, except in areas of concentrated flow or where subject to tidal influences/high tides. RSP will be brown in color (such as napa valley basalt) or stained brown..
- Exposed portions of drainages will be colored brown, such as culvert pipes, flared end sections, and other exposed areas. Concrete drainages will also be aesthetically treated; final details will be determined during the design phase.
- Round all slopes to provide natural looking contours.
- If guardrails are used, exclude vegetation control concrete.
- Use locally appropriate, commercially available native seed species to revegetate areas disturbed by the Project.
- Camouflage the high-density polyethylene pipe with salvaged existing culvert sections or equivalent brown-color culvert section. Other exposed piping should be brown. Final details will be determined during the design phase.
- **AMM-BIO-1: Rare Plant Surveys.** Prior to the beginning of construction, botanical surveys would be conducted in areas of suitable habitat for rare plant species during the appropriate blooming season(s).
- **AMM-BIO-2: Avoid Rare Plants.** The BSA would be adjusted, if practicable, to avoid affecting special-status plant species.
- **AMM-BIO-3: Minimize Disturbance to Rare Plants.** If avoiding rare plant species is not practicable, measures may be implemented to minimize impacts. AMMs may include one or more of the following: (1) collection of rare plants seeds, bulbs, other propagules, or topsoil prior to construction for use in future onsite restoration or enhancement actions; (2) restoration or enhancement of suitable onsite rare plant habitat; or (3) restoration or enhancement of suitable offsite rare plant habitat.
- **AMM-BIO-4: California Red-Legged Frog Habitat Work Window.** Ground disturbance in areas identified as suitable CRLF habitat that has not been previously disturbed in such a way that removes or destroys access to burrows and migratory habitat, or has not been previously enclosed with WEF, as identified by a USFWS-approved biological monitor, would occur between April

15 and October 31. Areas that are not considered suitable CRLF habitat are accessible for construction work activities year-round (unless outlined in PLACs).

- **AMM-BIO-5: Monitoring Protocols.** During construction in potential and/or suitable CRLF habitat, the following monitoring protocols would be observed by a USFWS-approved biological monitor:
 - a. Within 24 hours prior to initial ground-disturbing activities, potential and/or suitable CRLF habitat identified within the BSA would be surveyed by a USFWS-approved biological monitor to clear the site of CRLF moving above ground or taking refuge in burrow openings or under construction materials that could provide cover.
 - b. A USFWS-approved biological monitor would be present during ground-disturbing activities and vegetation/tree removal in suitable CRLF habitat to monitor the removal of the top 12 inches of soil.
 - c. If potential aestivation burrows are discovered, the burrows would be flagged for avoidance when feasible.
 - d. After a qualifying rain event, and prior to resuming construction activities, a USFWS-approved biological monitor would inspect the BSA and all construction equipment and materials for the presence of CRLF.
 - e. Upon discovery of a CRLF individual(s) within the BSA, all construction-related activities would cease within a 50-foot radius of the frog. The frog would be allowed to leave the BSA on its own; or if the CRLF does not leave on its own, it would be relocated as close to the BSA as feasible and with permission from the adjacent property owner and placed in a natural burrow by a USFWS-approved biological monitor with the appropriate USFWS 10(a)1(A) handling permit.
 - f. USFWS would be notified by phone and email within 1 working day of any CRLF discovery within the BSA.

- **AMM-BIO-6: Preconstruction Surveys for California Red-Legged Frog.** Preconstruction surveys for CRLF would be conducted by a USFWS-approved biological monitor within 14 calendar days of the beginning of construction-related activities in suitable upland dispersal and aquatic habitat prior to the beginning of ground-disturbing activities, vegetation removal, and WEF

installation. Surveys would be conducted as outlined in the USFWS Guidelines for CRLF. Access to CRLF habitat may be limited by appropriate safety measures and protocols discussed in the USFWS Guidelines. Preconstruction surveys would include:

- a. Foot surveys would be conducted of potential CRLF habitat within 50 feet of, as well as within, the BSA.
 - b. Potential cover sites (e.g., burrows, rocks, soil cracks, vegetation, and other potential refuge habitat) and any areas of disturbed soil would be investigated for signs of CRLF.
 - c. CRLF found in potential cover sites within the BSA would be documented and, if handling is allowed by the USFWS, relocated by a USFWS-approved biological monitor to an adequate cover site in the vicinity of the BSA. CRLF that cannot be relocated would be addressed in coordination with the USFWS.
- **AMM-BIO-7: Preconstruction Survey for *Viola adunca*.** A preconstruction survey for *Viola adunca* would be conducted prior to the beginning of construction, referencing phenology trends observed at nearby reference populations. If *Viola adunca* is not found within the BSA, then the BSA does not contain suitable breeding habitat for MSB.
 - **AMM-BIO-8: Minimize Impacts to *Viola adunca* and Myrtle's Silverspot Butterfly.** *Viola adunca* would be flagged and fenced for avoidance if found within the BSA. Host plants would be surveyed for evidence of MSB larval feeding or damage. If host plants are considered potentially occupied by MSB, then construction-related activities would occur during MSB larval period and outside of MSB flight season. If host plants cannot be avoided, then work would occur during the MSB flight season with a USFWS-approved biological monitor present to survey for adult MSB. If MSB is observed within the BSA, the USFWS-approved biological monitor, through communication with the RE or designee, may stop work if deemed necessary for any reason to protect MSB and would advise the RE or designee on how to proceed accordingly.
 - **AMM-BIO-9: Worker Environmental Awareness Training.** Prior to the beginning of construction, a qualified biologist would provide WEAT for all construction personnel to identify any special-status species that may be within the BSA, their basic habits, how they may be encountered in their work area, and

procedures to follow when they are encountered. Any personnel joining the work crew later would receive the same training before beginning work. Upon completion of WEAT, construction personnel would sign a form stating they attended the program and understand all protection measures. A pamphlet that contains images of special-status species that have the potential occur within the BSA, describes ESAs within the BSA, and notes key protection measures, as well as employee guidance, would be given to each person who completes the training program. These forms would be made available to the appropriate agencies upon request.

- **AMM-CULT-1: Establish and Enforce Environmentally Sensitive Area Action Plan.** Prepare an ESA Action Plan, which would establish an ESA to delineate the archaeological site for protection. Specific measures, such as protective fencing, access restrictions, and monitoring of the ESA boundaries by a qualified archaeologist, would be enforced by the responsible parties identified in the ESA Action Plan. The horizontal and vertical ESA as identified in the ESA Action Plan would avoid and/or minimize impacts to P-21-000030/CA-MRN-613 and P-21-000487/CA-MRN-560H.
- **AMM-GEO-1: Perform Site-Specific Geotechnical and Engineering Studies, and Implement Recommendations.** Site-specific geotechnical and engineering studies would be prepared prior to the beginning of construction.
- **AMM-NOISE-1: Public Outreach.** Public outreach would be required prior to the beginning of, and throughout, construction to update the public with upcoming construction-related activities and schedules. Public outreach may entail publishing public notices and updating the Project website.
- **AMM-NOISE-2: Construction Noise Levels.** The following measures would be implemented to avoid or minimize noise levels during construction where feasible:
 - Equip an internal combustion engine with a manufacturer-recommended muffler that is in good condition. Do not operate an internal combustion engine within the Project footprint without the appropriate muffler.
 - Do not idle construction equipment unnecessarily.

- Maximize the distance between stationary noise-generating construction equipment, such as air compressors and portable power generators, and noise-sensitive receptors.
- Ensure construction equipment conforms to Caltrans Standard Specification 14-8. 02, Noise Control.
- **AMM-TRANS-1: Transportation Management Plan.** A TMP would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to aid in coordinating and providing further safety measures for those accessing SR 1 within the Project corridor during construction. The TMP would identify traffic delays/detours for, and provide priority to, emergency and medical vehicles associated with essential (i.e., public) services during full closure of SR 1 or one-way alternating traffic control, thereby avoiding or minimizing short-term, localized traffic congestion and delays. Notifications and instructions for rapid response or evacuation in the event of an emergency would be provided.

Mitigation Measures

- **MM-BIO-1: Impacts to ESHAs.** Temporary impacts to ESHAs (i.e., riparian and upland CRLF habitat) would be mitigated at a ratio of 1:1. Permanent impacts to ESHAs and aquatic resources would be mitigated at ratios of 3:1 and 4:1, respectively. Impacts to ESHAs, mitigation ratios, and mitigation monitoring would be confirmed with the appropriate agencies during the permitting process.
- **MM-BIO-2: Tree Replacement.** Two arroyo willow (*Salix lasiolepis*) trees would be removed and replaced at a ratio of 3:1. Appropriate replacement locations would be determined during the permitting process and in consultation with the appropriate agencies.
- **MM-BIO-3: Impacts to Waters.** Approximately 0.07 acre of potentially jurisdictional estuarine intertidal waters and less than approximately 0.01 acre of potentially jurisdictional other waters would be temporarily impacted by the installation of the TCDS. The temporarily impacted areas would be restored to mitigate impacts to habitat functionality. Approximately 0.01 acre of potentially jurisdictional estuarine intertidal waters would be permanently impacted by the installation of the RSP. In addition, less than 0.01 acre of potentially jurisdictional other waters would be permanently impacted by the construction of the two

wingwalls. Temporary and permanent impacts would be mitigated at a ratio of at least 1:1. Impacts to waters, mitigation ratios, and mitigation monitoring would be confirmed with the appropriate agencies during the permitting process.

Appendix D List of Technical Studies and References

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Appendix E Species Lists



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Tomales) OR Point Reyes NE OR Valley Ford OR Bodega Head OR Two Rock OR Drakes Bay OR Inverness

Table with 7 columns: Species, Element Code, Federal Status, State Status, Global Rank, State Rank, Rare Plant Rank/CDFW SSC or FP. Lists various species like Abronia umbellata, Agelaius tricolor, etc.



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Blennosperma bakeri</i> Sonoma sunshine	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
<i>Blennosperma nanum var. robustum</i> Point Reyes blennosperma	PDAST1A022	None	Rare	G4T2	S2	1B.2
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24252	None	Candidate Endangered	G3	S1	
<i>Bombus pensylvanicus</i> American bumble bee	IIHYM24260	None	None	G3G4	S2	
<i>Caecidotea tomalensis</i> Tomales isopod	ICMAL01220	None	None	G2	S2S3	
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	PMPOA17070	None	None	G3Q	S2	2B.1
<i>Callophrys mossii marinensis</i> Marin elfin butterfly	IILEPE2207	None	None	G4T1	S2	
<i>Calystegia purpurata ssp. saxicola</i> coastal bluff morning-glory	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
<i>Carex comosa</i> bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
<i>Carex leptalea</i> bristle-stalked sedge	PMCYP037E0	None	None	G5	S1	2B.2
<i>Carex lyngbyei</i> Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2
<i>Castilleja ambigua var. humboldtiensis</i> Humboldt Bay owl's-clover	PDSCR0D402	None	None	G4T2	S2	1B.2
<i>Castilleja leschkeana</i> Point Reyes paintbrush	PDSCR0D1R0	None	None	GX	SX	1A
<i>Ceanothus gloriosus var. porrectus</i> Mt. Vision ceanothus	PDRHA040F7	None	None	G4T2	S2	1B.3
<i>Ceanothus masonii</i> Mason's ceanothus	PDRHA04200	None	Rare	G1	S1	1B.2
Central Dune Scrub Central Dune Scrub	CTT21320CA	None	None	G2	S2.2	
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
<i>Chloropyron maritimum ssp. palustre</i> Point Reyes salty bird's-beak	PDSCR0J0C3	None	None	G4?T2	S2	1B.2
<i>Chorizanthe cuspidata var. cuspidata</i> San Francisco Bay spineflower	PDPGN04081	None	None	G2T1	S1	1B.2
<i>Chorizanthe cuspidata var. villosa</i> woolly-headed spineflower	PDPGN04082	None	None	G2T2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Chorizanthe valida</i> Sonoma spineflower	PDPGN040V0	Endangered	Endangered	G1	S1	1B.1
<i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<i>Cicuta maculata var. bolanderi</i> Bolander's water-hemlock	PDAP10M051	None	None	G5T4T5	S2?	2B.1
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Cirsium andrewsii</i> Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
<i>Clarkia concinna ssp. raichei</i> Raiche's red ribbons	PDONA050A2	None	None	G5?T1	S1	1B.1
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Coastal Terrace Prairie Coastal Terrace Prairie	CTT41100CA	None	None	G2	S2.1	
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Cuscuta pacifica var. papillata</i> Mendocino dodder	PDCUS011A2	None	None	G5T1	S1	1B.2
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S2	SSC
<i>Danaus plexippus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2Q	S2	
<i>Delphinium bakeri</i> Baker's larkspur	PDRAN0B050	Endangered	Endangered	G1	S1	1B.1
<i>Delphinium luteum</i> golden larkspur	PDRAN0B0Z0	Endangered	Rare	G1	S1	1B.1
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G2G3	S2S3	SSC
<i>Dirca occidentalis</i> western leatherwood	PDTHY03010	None	None	G2	S2	1B.2
<i>Eastwoodiella californica</i> swamp harebell	PDCAM02060	None	None	G3	S3	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Erigeron supplex</i> supple daisy	PDAST3M3Z0	None	None	G2	S2	1B.2
<i>Erysimum concinnum</i> bluff wallflower	PDBRA160E3	None	None	G3	S2	1B.2
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	
<i>Eumetopias jubatus</i> Steller sea lion	AMAJC03010	Delisted	None	G3	S2	
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fratercula cirrhata</i> tufted puffin	ABNNN12010	None	None	G5	S1S2	SSC
<i>Fritillaria lanceolata</i> var. <i>tristulis</i> Marin checker lily	PMLIL0V0P1	None	None	G5T2	S2	1B.1
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Gilia capitata</i> ssp. <i>chamissonis</i> blue coast gilia	PDPLM040B3	None	None	G5T2	S2	1B.1
<i>Gilia capitata</i> ssp. <i>tomentosa</i> woolly-headed gilia	PDPLM040B9	None	None	G5T2	S2	1B.1
<i>Gilia millefoliata</i> dark-eyed gilia	PDPLM04130	None	None	G2	S2	1B.2
<i>Helminthoglypta nickliniana awania</i> Peninsula coast range shoulderband	IMGASC2361	None	None	G3T1	S1	
<i>Helminthoglypta stiversiana williamsi</i> Williams' bronze shoulderband	IMGASC2034	None	None	G1G2T1	S1	
<i>Hemizonia congesta</i> ssp. <i>congesta</i> congested-headed hayfield tarplant	PDAST4R0W1	None	None	G5T2	S2	1B.2
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	PDASTE5011	None	None	G4T3	S3	1B.2
<i>Hesperoleucus venustus subditus</i> southern coastal roach	AFCJB19032	None	None	GNRT2	S2	SSC
<i>Heteranthera dubia</i> water star-grass	PMPON03010	None	None	G5	S2	2B.2
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Horkelia marinensis</i> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<i>Hydrobates homochroa</i> ashy storm-petrel	ABNDC04030	None	None	G2	S2	SSC
<i>Hypogymnia schizidiata</i> island tube lichen	NLT0032640	None	None	G2G3	S2	1B.3
<i>Icaricia icarioides parapheres</i> Point Reyes blue butterfly	IILEPG801D	None	None	G5T1T2	S1	
<i>Ischnura gemina</i> San Francisco forktail damselfly	IIOD072010	None	None	G2	S2	
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G3G4	S3S4	
<i>Lasiurus cinereus</i> hoary bat	AMACC05032	None	None	G3G4	S4	
<i>Lasiurus frantzii</i> western red bat	AMACC05080	None	None	G4	S3	SSC
<i>Lasthenia californica ssp. bakeri</i> Baker's goldfields	PDAST5L0C4	None	None	G3T1	S1	1B.2
<i>Lasthenia californica ssp. macrantha</i> perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Lateralus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
<i>Layia carnosa</i> beach layia	PDAST5N010	Threatened	Endangered	G2	S2	1B.1
<i>Leptosiphon rosaceus</i> rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
<i>Lichnanthe ursina</i> bumblebee scarab beetle	IICOL67020	None	None	G2	S2	
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
<i>Lilium maritimum</i> coast lily	PMLIL1A0C0	None	None	G2	S2	1B.1
<i>Lilium pardalinum ssp. pitkinense</i> Pitkin Marsh lily	PMLIL1A0H3	Endangered	Endangered	G5T1	S1	1B.1
<i>Limnanthes douglasii ssp. sulphurea</i> Point Reyes meadowfoam	PDLIM02038	None	Endangered	G4T1	S1	1B.2
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lupinus tidestromii</i> Tidestrom's lupine	PDFAB2B3Y0	Endangered	Endangered	G1	S1	1B.1
<i>Microseris paludosa</i> marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
<i>Monardella sinuata ssp. nigrescens</i> northern curly-leaved monardella	PDLAM18162	None	None	G3T2	S2	1B.2
<i>Myotis evotis</i> long-eared myotis	AMACC01070	None	None	G5	S3	
<i>Myotis thysanodes</i> fringed myotis	AMACC01090	None	None	G4	S3	
Northern Coastal Salt Marsh Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Maritime Chaparral Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
Northern Vernal Pool Northern Vernal Pool	CTT44100CA	None	None	G2	S2.1	
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G5T2Q	S2	
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S3	
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	Delisted	G4T3T4	S3	FP
<i>Phacelia insularis var. continentis</i> North Coast phacelia	PDHYD0C2B1	None	None	G2T2	S2	1B.2
<i>Piperia elegans ssp. decurtata</i> Point Reyes rein orchid	PMORC1X011	None	None	G4T1	S1	1B.1
<i>Polemonium carneum</i> Oregon polemonium	PDPLM0E050	None	None	G3G4	S2	2B.2
<i>Polygonum marinense</i> Marin knotweed	PDPGN0L1C0	None	None	G2Q	S2	3.1
<i>Potentilla uliginosa</i> Cunningham Marsh cinquefoil	PDROS1B4A0	None	None	GX	SX	1A
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S2	FP
<i>Rana boylei pop. 1</i> foothill yellow-legged frog - north coast DPS	AAABH01051	None	None	G3T4	S4	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Rhynchospora californica</i> California beaked-rush	PMCYP0N060	None	None	G1	S1	1B.1



Selected Elements by Scientific Name
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<i>Sidalcea calycosa ssp. rhizomata</i> Point Reyes checkerbloom	PDMAL11012	None	None	G5T2	S2	1B.2
<i>Sidalcea malviflora ssp. purpurea</i> purple-stemmed checkerbloom	PDMAL110FL	None	None	G5T1	S1	1B.2
<i>Silene scouleri ssp. scouleri</i> Scouler's catchfly	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	IILEPJ608C	Endangered	None	G5T1	S1	
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
<i>Streptanthus glandulosus ssp. pulchellus</i> Mt. Tamalpais bristly jewelflower	PDBRA2G0J2	None	None	G4T2	S2	1B.2
<i>Syncaris pacifica</i> California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thaleichthys pacificus</i> eulachon	AFCHB04010	Threatened	None	G5	S1	
<i>Thamnomia vermicularis</i> whiteworm lichen	NLTES43860	None	None	G5	S1	2B.1
<i>Trifolium amoenum</i> two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
<i>Trifolium buckwestiorum</i> Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
<i>Trifolium polyodon</i> Pacific Grove clover	PDFAB402H0	None	Rare	G1	S1	1B.1
<i>Triphysaria floribunda</i> San Francisco owl's-clover	PDSCR2T010	None	None	G2?	S2?	1B.2
<i>Triquetrella californica</i> coastal triquetrella	NBMUS7S010	None	None	G2	S2	1B.2
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Vespericola marinensis</i> Marin hesperian	IMGASA4140	None	None	G2	S2	
<i>Zapus trinotatus orarius</i> Point Reyes jumping mouse	AMAFH01031	None	None	G5T2	S2	SSC

Record Count: 145

Search Results

74 matches found. Click on scientific name for details

Search Criteria: [CRPR](#) is one of [1A:1B:2A:2B] [Fed List](#) is one of [FE:FT:FC:None] and [State List](#) is one of [CE:CT:CR:CC:None] , [Quad](#) is one of [3812227:3812217:3812228:3812238:3812237:3812218:3812331]

▲ SCIENTIFIC NAME	COMMON NAME	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE	GENERAL HABITATS	MICROHABITATS
					PLANT RANK		
Abronia umbellata var. breviflora	pink sand-verbena	Jun-Oct	None	None	1B.1	Coastal dunes	
Agrostis blasdalei	Blasdale's bent grass	May-Jul	None	None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie	
Allium peninsulare var. franciscanum	Franciscan onion	(Apr)May-Jun	None	None	1B.2	Cismontane woodland, Valley and foothill grassland	Clay, Serpentine (often), Volcanic
Alopecurus aequalis var. sonomensis	Sonoma alopecurus	May-Jul	FE	None	1B.1	Marshes and swamps (freshwater), Riparian scrub	
Amorpha californica var. napensis	Napa false indigo	Apr-Jul	None	None	1B.2	Broadleafed upland forest (openings), Chaparral, Cismontane woodland	
Amsinckia lunaris	bent-flowered fiddleneck	Mar-Jun	None	None	1B.2	Cismontane woodland, Coastal bluff scrub, Valley and foothill grassland	
Arctostaphylos virgata	Marin manzanita	Jan-Mar	None	None	1B.2	Broadleafed upland forest, Chaparral, Closed-cone coniferous forest, North Coast coniferous forest	Granitic (sometimes), Sandstone (sometimes)
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	(Apr)Jun-Oct	None	None	1B.2	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt, streamsides)	
Blennosperma bakeri	Sonoma sunshine	Mar-May	FE	CE	1B.1	Valley and foothill grassland (mesic), Vernal pools	
Blennosperma nanum var. robustum	Point Reyes blennosperma	Feb-Apr	None	CR	1B.2	Coastal prairie, Coastal scrub	
Calamagrostis crassiglumis	Thurber's reed grass	May-Aug	None	None	2B.1	Coastal scrub (mesic), Marshes and swamps (freshwater)	
Calystegia purpurata ssp. saxicola	coastal bluff morning-glory	(Mar)Apr-Sep	None	None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest	
Carex comosa	bristly sedge	May-Sep	None	None	2B.1	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland	
Carex leptalea	bristle-stalked sedge	Mar-Jul	None	None	2B.2	Bogs and fens, Marshes and swamps, Meadows and seeps (mesic)	
Carex lyngbyei	Lyngbye's sedge	Apr-Aug	None	None	2B.2	Marshes and swamps (brackish, freshwater)	
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	Apr-Aug	None	None	1B.2	Marshes and swamps (coastal salt)	

<u><i>Castilleja leschkeana</i></u>	Point Reyes paintbrush	Jun	None	None	1A	Marshes and swamps (coastal)	
<u><i>Ceanothus gloriosus</i></u> <u>var. <i>porrectus</i></u>	Mt. Vision ceanothus	Feb-May	None	None	1B.3	Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Valley and foothill grassland	
<u><i>Ceanothus masonii</i></u>	Mason's ceanothus	Mar-Apr	None	CR	1B.2	Chaparral (openings, rocky, serpentinite)	
<u><i>Chloropyron maritimum</i></u> ssp. <u><i>palustre</i></u>	Point Reyes salty bird's-beak	Jun-Oct	None	None	1B.2	Marshes and swamps (coastal salt)	
<u><i>Chorizanthe cuspidata</i></u> var. <u><i>cuspidata</i></u>	San Francisco Bay spineflower	Apr-Jul(Aug)	None	None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub	Sandy
<u><i>Chorizanthe cuspidata</i></u> var. <u><i>villosa</i></u>	woolly-headed spineflower	May-Jul(Aug)	None	None	1B.2	Coastal dunes, Coastal prairie, Coastal scrub	Sandy
<u><i>Chorizanthe valida</i></u>	Sonoma spineflower	Jun-Aug	FE	CE	1B.1	Coastal prairie (sandy)	
<u><i>Cicuta maculata</i></u> var. <u><i>bolanderi</i></u>	Bolander's water-hemlock	Jul-Sep	None	None	2B.1	Marshes and swamps (brackish, coastal, freshwater)	
<u><i>Cirsium andrewsii</i></u>	Franciscan thistle	Mar-Jul	None	None	1B.2	Broadleaved upland forest, Coastal bluff scrub, Coastal prairie, Coastal scrub	Mesic, Serpentinite (sometimes)
<u><i>Clarkia concinna</i></u> ssp. <u><i>raichei</i></u>	Raiche's red ribbons	Apr-May	None	None	1B.1	Coastal bluff scrub	
<u><i>Cuscuta pacifica</i></u> var. <u><i>papillata</i></u>	Mendocino dodder	(Jun)Jul-Oct	None	None	1B.2	Coastal dunes (interdune depressions)	
<u><i>Delphinium bakeri</i></u>	Baker's larkspur	Mar-May	FE	CE	1B.1	Broadleaved upland forest, Coastal scrub, Valley and foothill grassland	Mesic (often), Shale
<u><i>Delphinium luteum</i></u>	golden larkspur	Mar-May	FE	CR	1B.1	Chaparral, Coastal prairie, Coastal scrub	Rocky
<u><i>Dirca occidentalis</i></u>	western leatherwood	Jan-Mar(Apr)	None	None	1B.2	Broadleaved upland forest, Chaparral, Cismontane woodland, Closed-cone coniferous forest, North Coast coniferous forest, Riparian forest, Riparian woodland	Mesic
<u><i>Eastwoodiella californica</i></u>	swamp harebell	Jun-Oct	None	None	1B.2	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Marshes and swamps (freshwater), Meadows and seeps, North Coast coniferous forest	Mesic
<u><i>Erigeron supplex</i></u>	supple daisy	May-Jul	None	None	1B.2	Coastal bluff scrub, Coastal prairie	
<u><i>Erysimum concinnum</i></u>	bluff wallflower	Feb-Jul	None	None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie	
<u><i>Fritillaria lanceolata</i></u> var. <u><i>tristulis</i></u>	Marin checker lily	Feb-May	None	None	1B.1	Coastal bluff scrub, Coastal prairie, Coastal scrub	
<u><i>Fritillaria liliacea</i></u>	fragrant fritillary	Feb-Apr	None	None	1B.2	Cismontane woodland, Coastal prairie, Coastal scrub, Valley and foothill grassland	Serpentinite (often)
<u><i>Gilia capitata</i></u> ssp. <u><i>chamissonis</i></u>	blue coast gilia	Apr-Jul	None	None	1B.1	Coastal dunes, Coastal scrub	
<u><i>Gilia capitata</i></u> ssp. <u><i>tomentosa</i></u>	woolly-headed gilia	May-Jul	None	None	1B.1	Coastal bluff scrub, Valley and foothill grassland	Rocky, Serpentinite

<u><i>Gilia millefoliata</i></u>	dark-eyed gilia	Apr-Jul	None	None	1B.2	Coastal dunes	
<u><i>Hemizonia congesta</i></u> <u><i>ssp. congesta</i></u>	congested-headed hayfield tarplant	Apr-Nov	None	None	1B.2	Valley and foothill grassland	Roadsides (sometimes)
<u><i>Hesperevax sparsiflora</i></u> var. <u><i>brevifolia</i></u>	short-leaved evax	Mar-Jun	None	None	1B.2	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie	
<u><i>Heteranthera dubia</i></u>	water star-grass	Jul-Oct	None	None	2B.2	Marshes and swamps (alkaline, still, slow-moving water)	Alkaline
<u><i>Horkelia cuneata</i></u> var. <u><i>sericea</i></u>	Kellogg's horkelia	Apr-Sep	None	None	1B.1	Chaparral (maritime), Closed-cone coniferous forest, Coastal dunes, Coastal scrub	Gravelly (sometimes), Openings, Sandy (sometimes)
<u><i>Horkelia marinensis</i></u>	Point Reyes horkelia	May-Sep	None	None	1B.2	Coastal dunes, Coastal prairie, Coastal scrub	Sandy
<u><i>Hypogymnia schizidiata</i></u>	island tube lichen		None	None	1B.3	Chaparral, Closed-cone coniferous forest	
<u><i>Lasthenia californica</i></u> <u><i>ssp. bakeri</i></u>	Baker's goldfields	Apr-Oct	None	None	1B.2	Closed-cone coniferous forest (openings), Coastal scrub, Marshes and swamps, Meadows and seeps	
<u><i>Lasthenia californica</i></u> <u><i>ssp. macrantha</i></u>	perennial goldfields	Jan-Nov	None	None	1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub	
<u><i>Lasthenia conjugens</i></u>	Contra Costa goldfields	Mar-Jun	FE	None	1B.1	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools	Mesic
<u><i>Layia carnosa</i></u>	beach layia	Mar-Jul	FT	CE	1B.1	Coastal dunes, Coastal scrub (sandy)	
<u><i>Leptosiphon rosaceus</i></u>	rose leptosiphon	Apr-Jul	None	None	1B.1	Coastal bluff scrub	
<u><i>Lilaeopsis masonii</i></u>	Mason's lilaeopsis	Apr-Nov	None	CR	1B.1	Marshes and swamps (brackish, freshwater), Riparian scrub	
<u><i>Lilium maritimum</i></u>	coast lily	May-Aug	None	None	1B.1	Broadleaved upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marshes and swamps (freshwater), North Coast coniferous forest	Roadsides (sometimes)
<u><i>Lilium pardalinum</i></u> <u><i>ssp. pitkinense</i></u>	Pitkin Marsh lily	Jun-Jul	FE	CE	1B.1	Cismontane woodland, Marshes and swamps (freshwater), Meadows and seeps	Mesic, Sandy
<u><i>Limnanthes douglasii</i></u> <u><i>ssp. sulphurea</i></u>	Point Reyes meadowfoam	Mar-May	None	CE	1B.2	Coastal prairie, Marshes and swamps (freshwater), Meadows and seeps (mesic), Vernal pools	
<u><i>Limnanthes vinculans</i></u>	Sebastopol meadowfoam	Apr-May	FE	CE	1B.1	Meadows and seeps, Valley and foothill grassland, Vernal pools	Vernally Mesic
<u><i>Lupinus tidestromii</i></u>	Tidestrom's lupine	Apr-Jun	FE	CE	1B.1	Coastal dunes	
<u><i>Microseris paludosa</i></u>	marsh microseris	Apr-Jun(Jul)	None	None	1B.2	Cismontane woodland, Closed-cone coniferous forest, Coastal scrub, Valley and foothill grassland	
<u><i>Monardella sinuata</i></u> <u><i>ssp. nigrescens</i></u>	northern curly-leaved monardella	(Apr)May-Jul(Aug-Sep)	None	None	1B.2	Chaparral (SCR Co.), Coastal dunes, Coastal scrub, Lower montane coniferous forest (SCR Co., ponderosa pine sandhills)	Sandy

<u><i>Phacelia insularis</i></u> <u>var. <i>continentis</i></u>	North Coast phacelia	Mar-May	None	None	1B.2	Coastal bluff scrub, Coastal dunes	Rocky (sometimes), Sandy
<u><i>Piperia elegans</i> ssp.</u> <u><i>decurtata</i></u>	Point Reyes rein orchid	Jul-Oct	None	None	1B.1	Coastal bluff scrub, Coastal prairie	
<u><i>Polemonium</i></u> <u><i>carneum</i></u>	Oregon polemonium	Apr-Sep	None	None	2B.2	Coastal prairie, Coastal scrub, Lower montane coniferous forest	
<u><i>Potentilla uliginosa</i></u>	Cunningham Marsh cinquefoil	May-Aug	None	None	1A	Marshes and swamps (freshwater)	
<u><i>Rhynchospora</i></u> <u><i>californica</i></u>	California beaked-rush	May-Jul	None	None	1B.1	Bogs and fens, Lower montane coniferous forest, Marshes and swamps (freshwater), Meadows and seeps (seeps)	
<u><i>Sagittaria sanfordii</i></u>	Sanford's arrowhead	May- Oct(Nov)	None	None	1B.2	Marshes and swamps (shallow freshwater)	
<u><i>Sidalcea calycosa</i></u> <u>ssp. <i>rhizomata</i></u>	Point Reyes checkerbloom	Apr-Sep	None	None	1B.2	Marshes and swamps (freshwater, near coast)	
<u><i>Sidalcea malviflora</i></u> <u>ssp. <i>purpurea</i></u>	purple-stemmed checkerbloom	May-Jun	None	None	1B.2	Broadleafed upland forest, Coastal prairie	
<u><i>Silene scouleri</i> ssp.</u> <u><i>scouleri</i></u>	Scouler's catchfly	(Mar- May)Jun- Aug(Sep)	None	None	2B.2	Coastal bluff scrub, Coastal prairie, Valley and foothill grassland	
<u><i>Stebbinsoseris</i></u> <u><i>decipiens</i></u>	Santa Cruz microseris	Apr-May	None	None	1B.2	Broadleafed upland forest, Chaparral, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Valley and foothill grassland	Openings, Serpentinite (sometimes)
<u><i>Streptanthus</i></u> <u><i>glandulosus</i> ssp.</u> <u><i>pulchellus</i></u>	Mt. Tamalpais bristly jewelflower	May- Jul(Aug)	None	None	1B.2	Chaparral, Valley and foothill grassland	Serpentinite
<u><i>Thamnotia</i></u> <u><i>vermicularis</i></u>	whiteworm lichen		None	None	2B.1	Chaparral, Valley and foothill grassland	Rocky, Sandstone
<u><i>Trifolium amoenum</i></u>	two-fork clover	Apr-Jun	FE	None	1B.1	Coastal bluff scrub, Valley and foothill grassland (sometimes serpentinite)	
<u><i>Trifolium</i></u> <u><i>buckwestiorum</i></u>	Santa Cruz clover	Apr-Oct	None	None	1B.1	Broadleafed upland forest, Cismontane woodland, Coastal prairie	Gravelly
<u><i>Trifolium polyodon</i></u>	Pacific Grove clover	Apr-Jun(Jul)	None	CR	1B.1	Closed-cone coniferous forest, Coastal prairie, Meadows and seeps, Valley and foothill grassland	Granitic (sometimes), Mesic
<u><i>Triphysaria</i></u> <u><i>floribunda</i></u>	San Francisco owl's-clover	Apr-Jun	None	None	1B.2	Coastal prairie, Coastal scrub, Valley and foothill grassland	Serpentinite (usually)
<u><i>Triquetrella</i></u> <u><i>californica</i></u>	coastal triquetrella		None	None	1B.2	Coastal bluff scrub, Coastal scrub	

Showing 1 to 74 of 74 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 31 May 2023].



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:
Project Code: 2022-0059947
Project Name: 2J510 - State Route 1 Culvert Rehabilitation Project

May 31, 2023

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 ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system 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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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 <https://www.fws.gov/birds/policies-and-regulations.php>.

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/birds/bird-enthusiasts/threats-to-birds.php>.

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/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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: 2022-0059947
Project Name: 2J510 - State Route 1 Culvert Rehabilitation Project
Project Type: Culvert Repair/Replacement/Maintenance
Project Description: The Project is to replace the existing culvert and rebuild the slope to restore drainage system functionality and prevent flooding and further damage to SR 1.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.14728275,-122.8787590206295,14z>



Counties: Marin and Sonoma counties, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 31 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 Fisheries¹, 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.

-
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.
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BIRDS

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Hawaiian Petrel <i>Pterodroma sandwichensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6746	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl <i>Strix occidentalis caurina</i> 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
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> 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 overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (CA - Sonoma County) There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Endangered

FISHES

NAME	STATUS
Longfin Smelt <i>Spirinchus thaleichthys</i> Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species.	Proposed Endangered
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Myrtle's Silverspot Butterfly <i>Speyeria zerene myrtleae</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6929	Endangered

CRUSTACEANS

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered

FLOWERING PLANTS

NAME	STATUS
Baker's Larkspur <i>Delphinium bakeri</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5031	Endangered
Beach Layia <i>Layia carnosa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6728	Threatened
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Clover (tidestrom"s) Lupine <i>Lupinus tidestromii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4459	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Marin Dwarf-flax <i>Hesperolinon congestum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5363	Threatened
Monterey Clover <i>Trifolium trichocalyx</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4282	Endangered
Pitkin Marsh Lily <i>Lilium pardalinum ssp. pitkinense</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/570	Endangered
Robust Spineflower <i>Chorizanthe robusta var. robusta</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9287	Endangered
Sebastopol Meadowfoam <i>Limnanthes vinculans</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/404	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered
Sonoma Alopecurus <i>Alopecurus aequalis var. sonomensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/557	Endangered
Sonoma Spineflower <i>Chorizanthe valida</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7698	Endangered

NAME	STATUS
Sonoma Sunshine <i>Blennosperma bakeri</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1260	Endangered
Yellow Larkspur <i>Delphinium luteum</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3578	Endangered

CRITICAL HABITATS

There are 7 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Baker's Larkspur <i>Delphinium bakeri</i> https://ecos.fws.gov/ecp/species/5031#crithab	Final
California Red-legged Frog <i>Rana draytonii</i> https://ecos.fws.gov/ecp/species/2891#crithab	Final
California Tiger Salamander <i>Ambystoma californiense</i> https://ecos.fws.gov/ecp/species/2076#crithab	Final
Marbled Murrelet <i>Brachyramphus marmoratus</i> https://ecos.fws.gov/ecp/species/4467#crithab	Final
Tidewater Goby <i>Eucyclogobius newberryi</i> https://ecos.fws.gov/ecp/species/57#crithab	Final
Western Snowy Plover <i>Charadrius nivosus nivosus</i> https://ecos.fws.gov/ecp/species/8035#crithab	Final
Yellow Larkspur <i>Delphinium luteum</i> https://ecos.fws.gov/ecp/species/3578#crithab	Final

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 4
Name: Jack Gordon
Address: 155 Grand Ave.
Address Line 2: Ste. 800
City: Oakland
State: CA
Zip: 94612
Email: jack.gordon@jacobs.com
Phone: 5625331107

Gordon, Jack

From: Gordon, Jack
Sent: Wednesday, May 31, 2023 12:44 PM
To: 'nmfs.wcrca.specieslist@noaa.gov'
Subject: NMFS Species List 2J510

Hello,

I'm requesting concurrence with the official species list pasted below for the Caltrans 2J510, MRN1 Project which will involve culvert replacement and rehabilitation along Highway 1 at PM 40.3. The project is located within the Tomales USGS 7.5 Quadrangles.

Point of Contact:

Jack Gordon, M.S. | [Jacobs](#)
Biologist/Environmental Planner
+1.562.533.1107
jack.gordon@jacobs.com

Quad Name **Tomales**
Quad Number **38122-B8**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - **X**
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
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 -
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
- Steller Sea Lion Critical Habitat -

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 the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

Appendix F Responses to Public Comments

CALIFORNIA COASTAL COMMISSION

SOUTH COAST DISTRICT OFFICE
301 E. OCEAN BLVD, SUITE 300
LONG BEACH, CA 90802-4325
VOICE (562) 590-5071
FAX (562) 590-5084



January 5, 2023

Caltrans, District 4
ATTN: Arnica MacCarthy, Senior Environmental Planner
P.O. Box 23660, MS-8B
Oakland, CA 94623-0660

Subject: Draft Initial Study with Proposed Mitigated Negative Declaration (IS/MND) for the State Route 1 Culvert Replacement Project (# 04-2J510) at post mile 40.3 in Marin County, California

Dear Ms. MacCarthy:

Thank you for the opportunity to provide comments on the draft Initial Study with Proposed Mitigated Negative Declaration (IS/MND) for the State Route (SR) 1 Culvert Replacement project, as well as for the opportunity for early coordination on this project. Commission staff appreciates the potential for highway improvement projects to enhance coastal access by ensuring that circulation along coastal highways is safe and efficient. At the same time, we recognize that these values must be harmonized with other equally important coastal policies that protect wetlands and sensitive habitat, visual resources, and other coastal resources. We appreciate the role of the CEQA process in helping to identify and resolve these policy considerations, though we also recognize that additional review by the Coastal Commission and/or local governments will be necessary to ensure that the proposed project ultimately complies with Coastal Act and Local Coastal Program (LCP) policies.

Based on our review, the draft IS/MND identifies potential impacts in the following key environmental categories: biological resources, cultural resources, water quality, land use and planning, visual resources, traffic, utilities, air quality and greenhouse gas emissions. This list appears to adequately encompass project-related impacts and appropriate minimization and mitigation measures. Nonetheless, we offer the following comments on the draft IS/MND, which we hope will help streamline the permitting process while best protecting coastal resources.

Project Description and Jurisdiction

The proposed project would remove, replace, and extend the culvert at post mile PM 40.3 on SR 1 in Marin County, California. The proposed project would also include constructing two wingwalls, removing and installing rock slope protection, excavating the slip out and rebuilding the slope, removing and replacing the structural section of highway, and installing the temporary creek diversion system.

It appears that the proposed project is located entirely within the Commission's original jurisdiction. The standard of review for the CDP application in the Commission's original jurisdiction is the Coastal Act, and the County's certified LCP would serve as guidance.

Visual Resources.

As recognized on page 3-4 of the draft IS/MND, SR 1 is listed as eligible for designation as a State Scenic Highway. Much of the area in the vicinity of the culvert is vegetated, either with shrubs and/or trees. Additional highway plantings are within the interchanges, which continue the landscape character of the corridor.

It is unclear from the project proposal at this stage to what extent the new culvert or its associated infrastructures will be visible from the roadway or any adjacent public recreation areas.

Coastal Act Section 30251 requires that the scenic and visual resources of the coastal area around Highway 1 be protected as a resource of public importance, and that development be visually compatible with the character of the surrounding area, and sited and designed to minimize alteration of natural landforms. The County of Marin's LCP mirrors these policies.

Given these policies, any potential impacts to coastal views should be documented in impending project proposals, and these impacts should be avoided and minimized through various potential siting and design measures, and mitigation will be required if they cannot be avoided. We appreciate that Caltrans proposes several minimization measures, which include vegetation preservation, revegetation of all disturbed surfaces with native species, and replacement planting of native trees. We further suggest that Caltrans identify and incorporate into the project measures that might include limiting the extent of the culverts to the length of the roadway, if feasible, avoiding or minimizing rock protection, concrete, or other artificial construction devices; planting input and outfall areas with native vegetation; and planting native vegetation to obscure views of the culvert and its associated materials.

For instance, the proposed new culvert includes an extended pipe, new wingwalls, replacement rock slope protection that extends further seaward from the roadbed. The extension of the culvert or culvert related structures extending further than the roadbed will likely have impacts to coastal view resources. These impacts should be avoided and minimized, and mitigation may be necessary if they cannot. Please consider some of the measures described above to avoid or minimize coastal view impacts of this project.

The draft IS/MND does not reference the Marin State Route 1 Repair Guidelines, but these guidelines and the Sonoma County Route 1 Repair Guidelines have some helpful best practices for minimization of visual impacts for culverts.

Lastly, it should also be noted that although this project does not currently include any additional structures or materials beyond the culverts and their associated materials, this project should not be expanded in the future in such a way that negatively impacts on coastal views, for instance through the addition of unnecessary guardrails and cable railings, or additional unnecessary signage.

Biological Resources - Vegetation Clearance

The draft IS/MND describes vegetation clearance, grubbing, and tree trimming and/or removal, including the removal of native vegetation. The document also describes the restoration and treatment of disturbed areas with erosion control and revegetation with locally appropriate, commercially available native seed species.

We note that Caltrans appropriately proposes to mitigate permanent impacts at a 3:1 ratio and temporary impacts at a 1:1. However, the document does not make a distinction between temporary and permanent impacts. Please note the Commission has historically considered temporary impacts to be those where 1) there is no significant ground disturbance (i.e., earthwork including grading that disturbs seedbank); and 2) vegetation recovers to comparable size/age class within 12 months from the initial disturbance. All other impacts are considered permanent. For example, in most cases shrubs are not going to recover to the pre-existing age class within one year from seed and therefore such impacts should be considered permanent.

Finally, at the CDP phase of this project, the vegetation communities will need to be specifically analyzed to determine which communities would be considered Environmentally Sensitive Habitat Areas (ESHA) and coastal wetlands under the Coastal Act and LCP. Development in ESHA or wetlands areas requires specific findings to be approvable and may require additional protective conditions or mitigation measures. As noted in the draft IS/MND, Section 30107.5 of the California Coastal Act (CCA) defines environmentally sensitive natural communities as “any land in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (e.g., riparian, essential fish habitat, upland habitats, native tree areas, wetland marshes, or other areas that support rare or endangered plant or animal species.)

Caltrans also proposes to replace native trees at a minimum 3:1 ratio or to compensate for the removal of two willow trees via money provided in lieu of replacement planting; the latter should be discussed to determine if it is appropriate or if other mitigation is required. Mitigation remains a consistent source of permitting delays in the Coastal Zone, and early coordination is essential. Incorporating the necessary mitigation into the overall project will allow Commission and local government staff can evaluate the entire project for consistency with Coastal Act and LCP policies so that the project may be permitted efficiently. We should meet soon to discuss the project impacts and to ensure the mitigation proposed is adequate and identify the appropriate means to include additional mitigation if needed.

Coastal Access.

The Coastal Act and the Marin County LCP contain policies protecting and promoting public coastal access. As recognized on page 3-4 of the draft IS/MND, SR 1 within the Project corridor is a major tourist and recreational travel route and is a part of the Pacific Coast Bicycle Route that runs parallel to, or is part of, the California Coastal Trail.

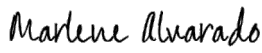
Given the importance of Highway 1 to public coastal access throughout the project area, we suggest that Caltrans schedule any traffic restrictions associated with constructing project elements in the Coastal Zone to avoid the summer season, when coastal visitorship is highest, particularly on weekends and holidays. We further suggest that Caltrans avoid locating construction staging and storage within highway pullouts that are commonly used for public parking and coastal access, particularly during the summer. These measures will help avoid significant impacts to public access and ensure the project's consistency with the public access policies of the Coastal Act and relevant LCPs. We suggest that the Traffic Management Plan (TMP) be developed in advance of the CDP process, consistent with these thoughts. Although we understand this is a smaller culvert project, we also suggest that Caltrans address the need for shoulder widening or trail access for the California Coastal Trail along this stretch of Highway 1, and how it can be incorporated in this project or why it is not appropriate at this time.

SLR/Climate Change

Lastly, the draft IS/MND does discuss sea level rise but concludes that it is not an issue within the expected life span of 50 years for the project. In looking at this sensitive nature of this location directly on the waters' edge, and reviewing CoSMoS modelling for the location, we are not sure the conclusion in the draft IS/MND is sufficient. It is likely that a more detailed analysis will be necessary for the permitting phase of this project. Although this is just a culvert replacement project, and we are not suggesting a full adaptation plan is necessary, there should be some discussion of the possible impacts of SLR in the next 50 years, such as flooding or clogging of the culvert, or increased degradation of the culvert from sea water flooding, or further analysis showing those impacts will not occur. Additionally, as we have seen in recent winters, storm flows from more significant storms can be a greater hazard, with climate-change related increases in storm intensity or frequency of very intense storms. Analysis of these potential impacts would assist in recommending culvert size or understanding impacts to coastal resources caused by increased water flows through the culverts from significant storm events.

This concludes our comments at this time. Thank you for the opportunity to provide comments on this project at this stage. I am available for questions should Caltrans need clarification on these comments. As always, additional comments or concerns may become apparent as this project is developed further. We look forward to working with Caltrans and Marin County project staff in the future on this project.

Sincerely,

DocuSigned by:

7BA9E875FE3C4A1...

Marlene Alvarado
Senior Transportation Program Analyst

cc: Stephanie Rexing, Coastal Commission; Marin County Planning Division

Table F-1. Response to Comments

Comment Number	Comment	Response
SA-1-1	<p>The proposed project would remove, replace, and extend the culvert at post mile PM 40.3 on SR 1 in Marin County, California. The proposed project would also include constructing two wingwalls, removing and installing rock slope protection, excavating the slip out and rebuilding the slope, removing and replacing the structural section of highway, and installing the temporary creek diversion system.</p> <p>It appears that the proposed project is located entirely within the Commission's original jurisdiction. The standard of review for the CDP application in the Commission's original jurisdiction is the Coastal Act, and the County's certified LCP would serve as guidance.</p>	<p>Caltrans acknowledges the California Coastal Commission's (CCC's) description of the Project and agrees with its assessment of the Project being within the CCC's original jurisdiction.</p>
SA 1-2	<p>As recognized on page 3-4 of the draft IS/MND, SR 1 is listed as eligible for designation as a State Scenic Highway. Much of the area in the vicinity of the culvert is vegetated, either with shrubs and/or trees. Additional highway plantings are within the interchanges, which continue the landscape character of the corridor.</p> <p>It is unclear from the project proposal at this stage to what extent the new culvert or its associated infrastructures will be visible from the roadway or any adjacent public recreation areas.</p> <p>Coastal Act Section 30251 requires that the scenic and visual resources of the coastal area around Highway 1 be protected as a resource of public importance, and that development be visually compatible with the character of the surrounding area, and sited and designed to minimize alteration of natural landforms. The County of Marin's LCP mirrors these policies.</p> <p>Given these policies, any potential impacts to coastal views should be documented in impending project proposals, and these impacts should be avoided and minimized through various potential siting and design measures, and mitigation will be required if they cannot be avoided. We appreciate that Caltrans proposes several minimization measures, which include vegetation preservation, revegetation of all disturbed surfaces with native species, and replacement planting of native trees. We further suggest that Caltrans identify and incorporate into the project measures that might include limiting the extent of the culverts to the length of the roadway, if feasible, avoiding or minimizing rock protection, concrete, or other artificial construction devices; planting input and outfall areas with native vegetation; and planting native vegetation to obscure views of the culvert and its associated materials.</p> <p>For instance, the proposed new culvert includes an extended pipe, new wingwalls, replacement rock slope protection that extends further seaward from the roadbed. The extension of the culvert or culvert related structures extending further than the roadbed will likely have impacts to coastal view resources. These impacts should be avoided and minimized, and mitigation may be necessary if they cannot. Please consider some of them measures described above to avoid or minimize coastal view impacts of this project.</p> <p>The draft IS/MND does not reference the Marin State Route 1 Repair Guidelines, but these guidelines and the Sonoma County Route 1 Repair Guidelines have some helpful best practices for minimization of visual impacts for culverts.</p> <p>Lastly, it should also be noted that although this project does not currently include any additional structures or materials beyond the culverts and their associated materials, this project should not be expanded in the future in such a way that negatively impacts on coastal views, for instance through the addition of unnecessary guardrails and cable railings, or additional unnecessary signage.</p>	<p>Caltrans aims to minimize potential impacts to coastal views and visual resources to the extent practicable and will continue to explore additional measures as the Project design progresses.</p> <p>Caltrans acknowledges CCC's comment regarding Coastal Zone policies on visual resources and public views to coastal resources. Section 3.3.11, Land Use and Planning, has been updated to include three tables overviewing relevant Coastal Zone Management Act and Marin County Local Coastal Plan policies and the Final Marin SR 1 Repair Guidelines (Guidelines) regarding visual resources, and an evaluation of the Project's consistency with those policies. Also, Section 3.3.1, Aesthetics, has been updated to include Marin SR 1 Repair Guidelines regarding visual resources, and Caltrans will include these repair guidelines during Project design in order to minimize impacts to visual resources along SR 1.</p> <p>The Guidelines stress the value and importance of the use of specific design features for inclusion in highway projects along Marin SR 1. These include the use of design features that contribute to visual consistency and continuity, and constructed features that are visually appropriate to the regional area. The Project will be designed to comply with the Guidelines (Table 3-3, Land Use and Planning). Additionally, the Project would comply with Director's Policy (DP) 22 "Context Sensitive Solutions" (Caltrans 2001). The solutions set forth in DP 22 use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Further, the Guidelines and DP 22 encourage the use of project components often not included on highway construction projects elsewhere, including nonstandard design features requiring special approval. These design features reflect the recognition of the importance of the visual quality of the highway and are reflected in the early-stage design of the Project. Context-sensitive Project components would be finalized in the Project design phase and in consultation with applicable agencies.</p> <p>Caltrans has noted your comment and will not include additional structures or materials that would negatively impact coastal views.</p>

Comment Number	Comment	Response
SA-1-3	<p>The draft IS/MND describes vegetation clearance, grubbing, and tree trimming and/or removal, including the removal of native vegetation. The document also describes the restoration and treatment of disturbed areas with erosion control and revegetation with locally appropriate, commercially available native seed species.</p> <p>We note that Caltrans appropriately proposes to mitigate permanent impacts at a 3:1 ratio and temporary impacts at a 1:1. However, the document does not make a distinction between temporary and permanent impacts. Please note the Commission has historically considered temporary impacts to be those where 1) there is no significant ground disturbance (i.e., earthwork including grading that disturbs seedbank); and 2) vegetation recovers to comparable size/age class within 12 months from the initial disturbance. All other impacts are considered permanent. For example, in most cases shrubs are not going to recover to the pre-existing age class within one year from seed and therefore such impacts should be considered permanent.</p> <p>Finally, at the CDP phase of this project, the vegetation communities will need to be specifically analyzed to determine which communities would be considered Environmentally Sensitive Habitat Areas (ESHA) and coastal wetlands under the Coastal Act and LCP. Development in ESHA or wetlands areas requires specific findings to be approvable and may require additional protective conditions or mitigation measures. As noted in the draft IS/MND, Section 30107.5 of the California Coastal Act (CCA) defines environmentally sensitive natural communities as “any land in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (e.g., riparian, essential fish habitat, upland habitats, native tree areas, wetland marshes, or other areas that support rare or endangered plant or animal species).</p> <p>Caltrans also proposes to replace native trees at a minimum 3:1 ratio or to compensate for the removal of two willow trees via money provided in lieu of replacement planting; the latter should be discussed to determine if it is appropriate or if other mitigation is required. Mitigation remains a consistent source of permitting delays in the Coastal Zone, and early coordination is essential. Incorporating the necessary mitigation into the overall project will allow Commission and local government staff can evaluate the entire project for consistency with Coastal Act and LCP policies so that the project may be permitted efficiently. We should meet soon to discuss the project impacts and to ensure the mitigation proposed is adequate and identify the appropriate means to include additional mitigation if needed.</p>	<p>The CDP application will be prepared during the permitting process, and will define/differentiate between short-term temporary impacts, long-term temporary impacts, and permanent impacts.</p> <p>Caltrans would coordinate with Marin County and/or CCC for the anticipated CDP (including updated wetlands and ESHA impact analysis) during the permitting process.</p> <p>Caltrans will coordinate with the CCC, Marin County, and other agencies during the permitting process and will discuss the anticipated Project impacts, ensure the appropriate mitigation measures are selected for the Project, and develop mitigation strategies in coordination with agencies with jurisdiction over affected resources.</p> <p>The IS/MND has been updated; native trees removed would all be replanted at a 3:1 ratio, including the two willow trees previously proposed to potentially be compensated via monetary payment.</p>
SA-1-4	<p>The Coastal Act and the Marin County LCP contain policies protecting and promoting public coastal access. As recognized on page 3-4 of the draft IS/MND, SR 1 within the Project corridor is a major tourist and recreational travel route and is a part of the Pacific Coast Bicycle Route that runs parallel to, or is part of, the California Coastal Trail.</p> <p>Given the importance of Highway 1 to public coastal access throughout the project area, we suggest that Caltrans schedule any traffic restrictions associated with constructing project elements in the Coastal Zone to avoid the summer season, when coastal visitorship is highest, particularly on weekends and holidays. We further suggest that Caltrans avoid locating construction staging and storage within highway pullouts that are commonly used for public parking and coastal access, particularly during the summer. These measures will help avoid significant impacts to public access and ensure the project’s consistency with the public access policies of the Coastal Act and relevant LCPs. We suggest that the Traffic Management Plan (TMP) be developed in advance of the CDP process, consistent with these thoughts. Although we understand this is a smaller culvert project, we also suggest that Caltrans address the need for shoulder widening or trail access for the California Coastal Trail along this stretch of Highway 1, and how it can be incorporated in this project or why it is not appropriate at this time.</p>	<p>Caltrans acknowledges the CCC’s comment regarding minimization of public access impacts during construction. Caltrans aims to reduce traffic and potential impacts to public access during construction and will implement avoidance and minimization measures to ensure no significant impacts would occur to public access during all construction activities including the location of staging areas. AMM-TRANS-1 would be developed prior to the beginning of construction after further consultation with all appropriate federal, state, and local agencies.</p> <p>Caltrans acknowledges CCC’s comment regarding Coastal Zone policies on public access to recreational facilities along SR 1 in West Marin. Section 3.3.11, Land Use and Planning, has been updated to include two tables overviewing relevant Coastal Zone Management Act and Marin County Local Coastal Plan policies regarding coastal access, and an evaluation of the Project’s consistency with those policies.</p> <p>Caltrans will coordinate with the CCC and Marin County regarding the TMP. Caltrans will work with CCC, Marin County and other local agencies prior to Project construction to minimize impacts to motorists and pedestrian/bicyclists that use SR 1 during high traffic periods (i.e., summer months and weekends). As part of the CDP permitting process with the CCC and Marin County, Caltrans may coordinate regarding the feasibility to incorporate the California Coastal Trail within the Project corridor.</p>
SA-1-5	<p>Lastly, the draft IS/MND does discuss sea level rise but concludes that it is not an issue within the expected life span of 50 years for the project. In looking at this sensitive nature of this location directly on the water’s edge, and reviewing CoSMoS modelling for the location, we are not sure the conclusion in the draft IS/MND is sufficient. It is likely that a more detailed analysis will be necessary for the permitting phase of this project. Although this is just a culvert replacement project, and we are not suggesting a full adaptation plan is necessary, there should be some discussion of the possible impacts of SLR in the next 50 years, such as flooding or clogging of the culvert, or increased degradation of the culvert from sea water flooding, or further analysis showing those impacts will not occur. Additionally, as we have seen in recent winters, storm flows from more significant storms can be a greater hazard, with climate-change related increases in storm intensity or frequency of very intense storms. Analysis of these potential impacts would assist in recommending culvert size or understanding impacts to coastal resources caused by increased water flows through the culverts from significant storm events.</p>	<p>Caltrans acknowledges CCC’s request for additional information to be included in the IS/MND regarding flooding risk and potential sea-level rise concerns. As noted in Section 3.3.10, Hydrology and Water Quality, of the IS/MND, sea-level rise within the Project limits for the year 2080 (assuming high emissions) is anticipated to range from approximately 1.2 feet to 6.7 feet; however, the Project limits are not anticipated to be impacted by sea-level rise during the assumed 50-year service life of the culvert.</p> <p>Potential sea-level rise impacts are not evaluated further in this IS/MND due to the limited scope of work for the Project, the purpose of which is to replace the culvert and rebuild the slope to restore drainage system functionality and prevent further damage to SR 1. Climate change and future sea-level rise would be considered through the environmental evaluation process of future Projects scoped to address these issues on SR 1 in the Project corridor. Noting CCC’s comment pertaining to storm flows from more significant storms becoming a greater hazard, Caltrans now notes in Chapter 1 of the IS/MND the emergency Director’s Order that was performed in response to severe damage sustained at the Project limits during the winter storm season of 2023.</p>