State Route 1 Culvert Replacement Project

Draft Initial Study with Proposed Mitigated Negative Declaration

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

Prepared by the
State of California, Department of Transportation

November 2022

Caltrans

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed 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.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This IS/MND describes why Caltrans proposes the Project, how the existing environment could be affected by the Project, potential environmental impacts, and the Project features, avoidance and minimization measures, and mitigation measures.

What you should do:

- Please read this IS/MND.
- This IS/MND, maps, and Project information are available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs). In addition, a hardcopy of this IS/MND will be made available at the following locations in the vicinity of the Project:
  - Point Reyes Library
    11431 State Route 1
    Point Reyes Station, CA 94956
  - Tomales Post Office
    27005 State Route 1
    Tomales, CA 94971

- We would like to hear what you think. Send comments by December 21, 2022 to:

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

  – mrn1culvertreplacementpm40@dot.ca.gov.

What happens next:

Per CEQA Section 15073, Caltrans will circulate this IS/MND for review for 45 days from November 21, 2022 to January 5, 2023. During the 45-day public review period, the general public and responsible and trustee agencies can submit comments on this IS/MND to Caltrans. Caltrans will consider the comments and will respond to the comments after the 45-day public review period.

After comments have been received from the general public and responsible and trustee agencies, Caltrans may:

1. Grant environmental approval to the Project.
2. Conduct additional environmental studies.
3. Abandon the Project.

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

Alternative formats:

For individuals with sensory disabilities, this IS/MND 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**.

An accessible electronic copy of this IS/MND is available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Draft Initial Study with Proposed Mitigated Negative Declaration

04-MRN-1	40.3	04-2J510
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
Contact person and phone number:	Arnica MacCarthy, Senior Environmental Planner (510) 506-0481
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 or Marin County 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

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11/17/2022

Scott M. Williams
Acting Chief, Office of Environmental Analysis
California Department of Transportation, District 4

Date

To obtain a copy in Braille, in large print, on audiocassette, or on computer disk, please mail Caltrans, District 4, ATTN: Arnica MacCarthy, Senior Environmental Planner, P.O. Box 23660, MS-8B, Oakland, CA 94623-0660; email mrn1culvertreplacementpm40@dot.ca.gov; or call **California Relay Service** at **(800) 735-2929 (TTY)**, **(800) 735-2922 (Voice)**, or **711**.

Proposed Mitigated Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed 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.

Determination

This Proposed Mitigated Negative Declaration is included to notify the general public, responsible agencies, and trustee agencies that Caltrans intends to adopt a Mitigated Negative Declaration for the Project. This Mitigated Negative Declaration is subject to change based on comments received from the general public, responsible agencies, and trustee agencies.

Caltrans has prepared this IS/MND for the Project and, pending public review, expects to determine 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, land use and planning, 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, noise, public services, utilities and service systems, transportation, tribal cultural resources, and wildfire.

With the implementation of the following mitigation measure, 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 CRLF habitat) would be mitigated at a ratio of 1:1. Permanent impacts to ESHAs and aquatic resources would be mitigated at a 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 or compensated via money provided in lieu of replacement planting (Section 22.75.130). 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 temporary creek diversion system. 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 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 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.

Melanie Brent
Deputy District Director
Environmental Planning and Engineering
California Department of Transportation, District 4

Date

Table of Contents

List of Tables

List of Appendices

List of Abbreviated Terms

Abbreviated Term	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
CNDDB	California Natural Diversity Database

Abbreviated Term	Definition
CNPS	California Native Plant Society
CO_2	carbon dioxide
CRLF	California red-legged frog
CWA	Clean Water Act
dBA	A-weighted decibel
DPS	Distinct Population Segment
DSA	disturbed soil area
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

Abbreviated Term	Definition
MTC	Metropolitan Transportation Commission
N_2O	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
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

Abbreviated Term	Definition
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
SWHA	Swainson's hawk
SWRCB	State Water Resources Control Board
TCDS	temporary creek diversion system
TCE	temporary construction easement
TMDL	Total Maximum Daily Load

Abbreviated Term	Definition
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 Proposed 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."

Caltrans proposes to remove, replace, and extend the culvert, construct two wingwalls, remove and install 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

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 rock slope protection (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 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 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 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 or Marin County	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 Permit	Application to be submitted during the PS&E phase
U.S. Fish and Wildlife Service	Biological Opinion	Targeting to receive by December 21, 2022

Notes:
PS&E = Plans, Specifications, and Estimates

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, land use and planning, 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		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:**
Printed Name: Scott M. Williams	**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 B 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.

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) <u>Less Than Significant Impact</u>

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.

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 (PM_{10}) 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 (CNDDB) (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; and
- 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. *humboldtiensis,* 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 CNDDB 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 CNDDB 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) <u>Less Than Significant Impact with Mitigation Incorporated</u>

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 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 of 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) 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, or compensated via money provided in lieu of replacement planting (Section 22.75.130). 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.

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 approximatley 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 approximatley 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) <u>No Impact</u>

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 (CO_2) emissions. The U.S. Environmental Protection Agency's (USEPA's) GHG equivalencies formulas were used to convert CO_2 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 B, 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 CO_2, 0.004 ton of methane (CH_4), and 0.006 ton of nitrous oxide (N_2O). Total GHG emissions are presented as carbon dioxide equivalent ($CO2_e$) 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 $CO2_e$ during construction.

a) <u>Less Than Significant Impact</u>

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. CO_2 is an important GHG pollutant due to its abundance, in particular when compared with other GHGs (i.e., CH_4, N_2O, 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 B, 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?	No 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, b) 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.

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 B, 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 B, 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 would be mitigated at a ratio of 1:1. Permanent impacts to ESHAs and aquatic resources would be mitigated at a ratio of 3:1. The Project would also require removal of two arroyo willow trees. The Project would implement MM BIO-2 and replace the trees at a ratio of 3:1 or compensated through in lieu mitigation opportunities.

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 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, land use, 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, 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. The Project would potentially affect biological resources; however, these potential impacts would be less than significant with mitigation incorporated. The Project would implement MMs to mitigate 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 following.

4.1 Community Outreach

This IS/MND, maps, and Project information are available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs). In addition, a hardcopy of this IS/MND will be made available at the following locations in the vicinity of the Project:

- Point Reyes Library
  11431 State Route 1
  Point Reyes Station, CA 94956

- Tomales Post Office
  27005 State Route 1
  Tomales, CA 94971

The deadline for submission of comments on this IS/MND is January 5, 2023.

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 a SLC lease.

Organizations	Date	Topic
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.

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 preparing and reviewing this IS/MND are summarized in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Scott Williams	Office Chief (Acting), Office of Environmental Analysis
Caltrans	Arnica MacCarthy	Senior Environmental Planner, Office of Environmental Analysis
Caltrans	Jessica Thaggard	Branch Chief (Acting), 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 Risden	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	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

Organization	Name	Role
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	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	Associate Environmental Planner
Jacobs	Joe Aguirre	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

Chapter 6 Circulation List

This IS/MND will be circulated by November 21, 2022, to the agencies and elected officials listed in the following sections.

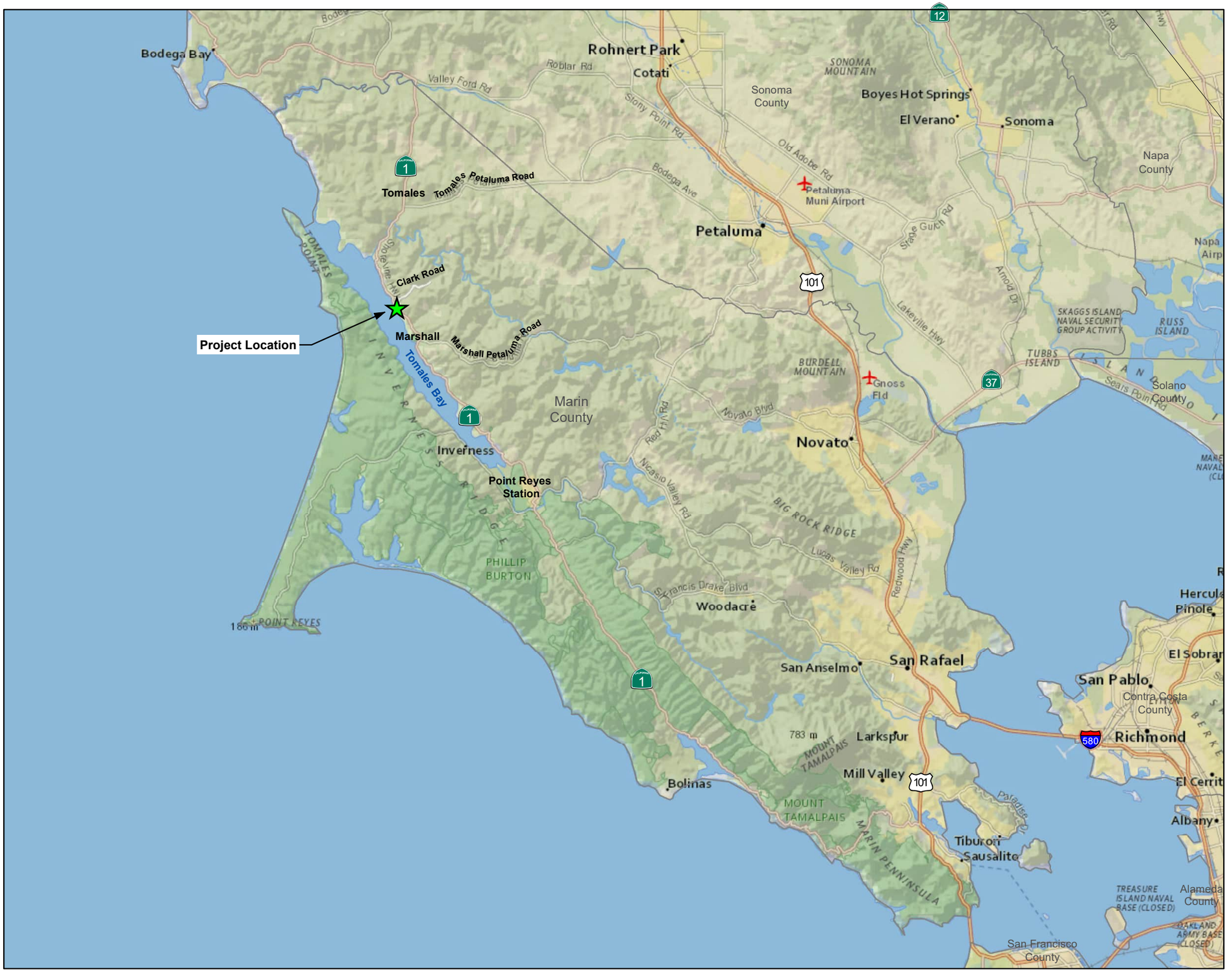
6.1 Agencies

- 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

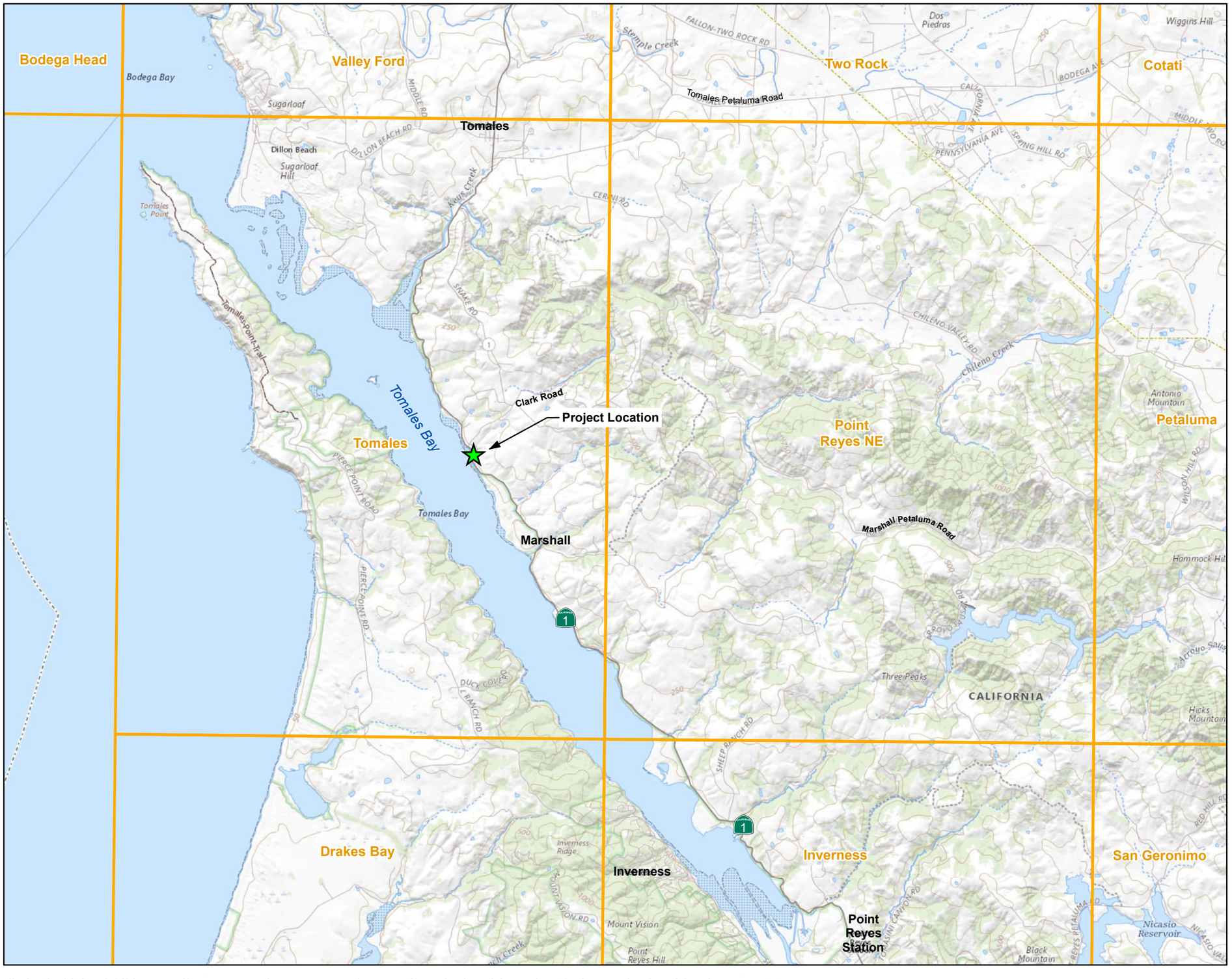
N

0 4 8

Miles

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

\\DC1VS01\GISPROJ\C\CALTRANS\2J510_MRN1_CULVERT_REHAB\MAPFILES\REPORT\2022\IS_MND\JULY\FIG1-1_REGIONAL_LOCATION_2J510.MXD



Legend

- Project Location
- USGS 7.5 Minute Quadrangle

N

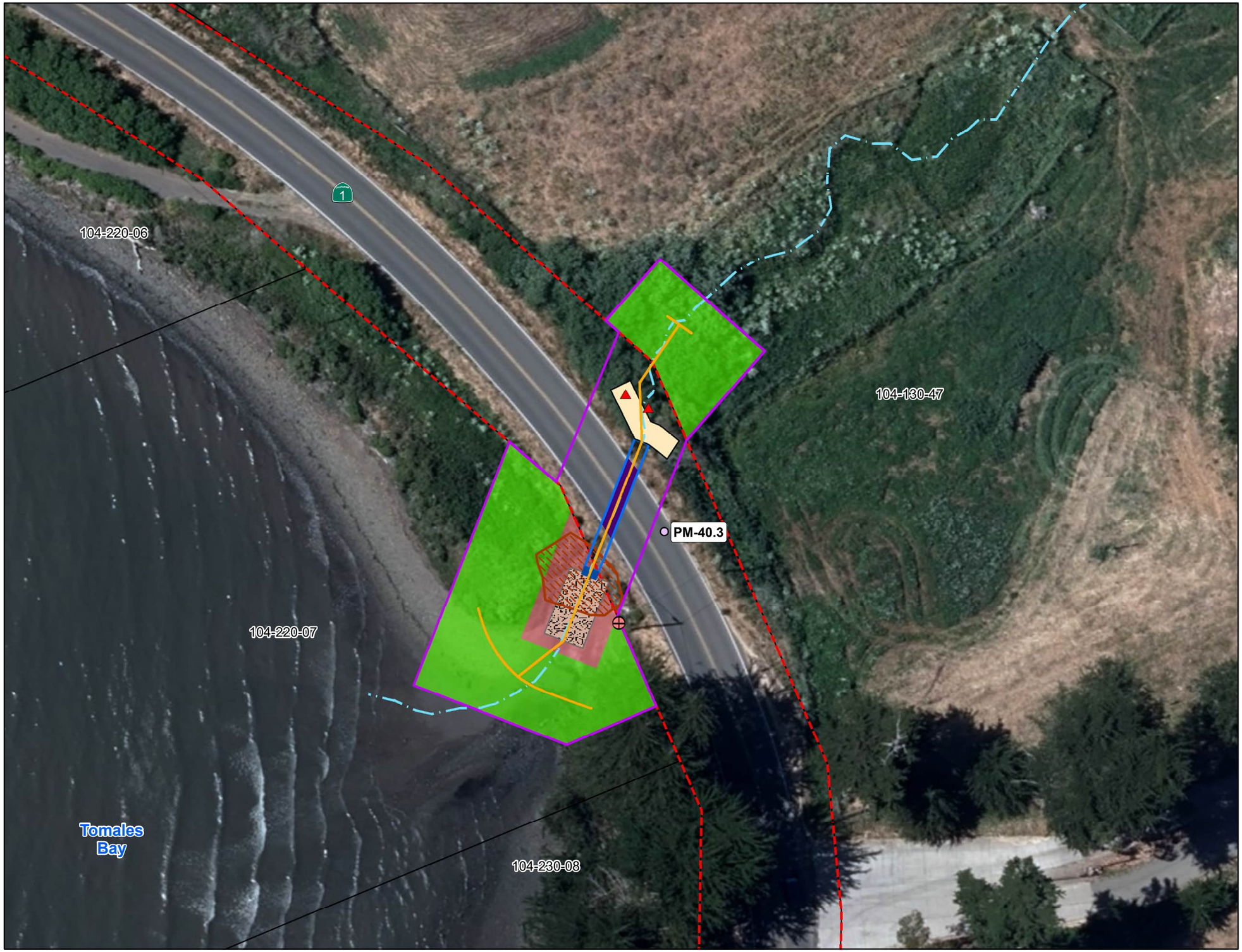
0 7,250 14,500

Feet

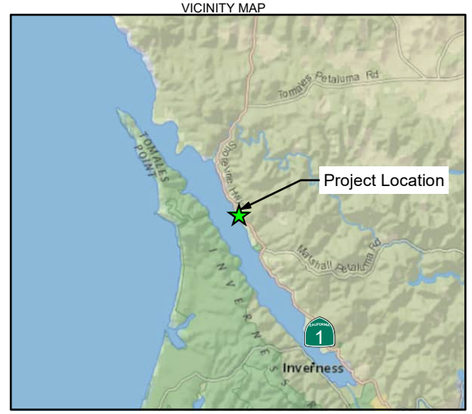
Caltrans

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

\\DC1VS01\GISPROJ\C\CALTRANS\2J510_MRN1_CULVERT_REHAB\MAPFILES\REPORT\2022\IS_MND\JULY\FIG1-2_PROJECT_LOCATION_2J520.MXD



VICINITY MAP



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 Aquisition / Temporary Construction Easement
- Right of Way Aquisition / 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

N

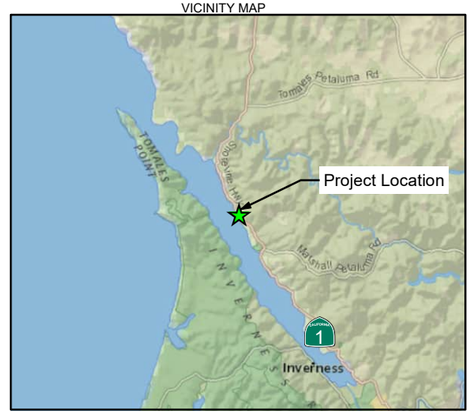
0 35 70
Feet

Caltrans

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

\\DC1VS01\GISPROJ\C\CALTRANS\2J510_MRN1_CULVERT_REHAB\MAPFILES\REPORT\2022\IS_MND\JULY\FIG1-3_PROJECT_COMPONENETS_2J510.MXD CARCHER 7/19/2022 9:39:22 AM

VICINITY MAP



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

N

0 35 70
Feet

Caltrans

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

\\DC1VS01\GISPROJ\C\CALTRANS\2J510_MRN1_CULVERT_REHAB\MAPFILES\REPORT\2022\IS_MND\JULY\FIG1-3_PROJECT_COMPONENETS_2J510.MXD CARCHER 7/19/2022 9:39:22 AM

Appendix B Summary of Project Features, Avoidance and Minimziation 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 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-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 of 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:

    g. 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.

    h. 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.

    i. If potential aestivation burrows are discovered, the burrows would be flagged for avoidance when feasible.

    j. 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.

k. 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.

l. 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:

  d. Foot surveys would be conducted of potential CRLF habitat within 50 feet of, as well as within, the BSA.

  e. 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.

  f. 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, or compensated via money provided in lieu of replacement planting (Section 22.75.130). 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.

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