Sonoma 1 Culvert Rehabilitation Project - North

SONOMA COUNTY, CALIFORNIA
DISTRICT 4 – SON – 1 (POST MILE 41.2-54.6)
04-1K750/0416000309

Initial Study with Negative Declaration

Prepared by the
State of California, Department of Transportation

October 2020

General Information about this Document

What's in this document:

California Department of Transportation (Caltrans) prepared this Initial Study with a Proposed Negative Declaration for the Sonoma 1 Culvert Rehabilitation Project – North (Project) in Sonoma County, California. The Project is located along State Route (SR) 1, from post mile 41.2 to 54.6 (Figure 1-1, Project Location). The Project proposes to replace 27 culverts at various locations along SR 1 from 0.2 mile north of Miller Creek to 0.1 mile north of Vantage Road. Additional Project information is provided in Chapter 2.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document describes why the Project is being proposed, how the existing environment could be affected by the Project, potential environmental impacts, and the proposed Project Features and Avoidance and Minimization Measures.

This Initial Study with Negative Declaration (IS-ND) was circulated to the public for 30 days beginning on February 20, 2020 and ending on March 20, 2020. Two comments were received during the public comment period and responses to these comments are included in Appendix F. Throughout this document, a vertical line in the margin indicates changes made since the Draft IS-ND was circulated for public review. Minor editorial changes and clarifications have not so been indicated.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write:

Caltrans, Attention: Arnica MacCarthy, Branch Chief, District 4, Office of Environmental Analysis, 111 Grand Avenue, MS 8-B, Oakland CA 94612

Telephone (510) 286-7195 (Voice), California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

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Initial Study with Negative Declaration

04-SON-1	41.2/54.6	04-1K750
Dist. – Co. – Rte.	PM	E.A.

Project title:	Sonoma 1 Culvert Rehabilitation Project - North
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Arnica MacCarthy, Branch Chief (510) 506-0481
Project location:	Sonoma County, California
General plan description:	Highway
Zoning:	Transportation Corridor
State Clearinghouse No.	2020020415
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements); CEQA Responsible Agencies are denoted with an asterisk (*):	• Clean Water Act 404 Nationwide Permit from the U.S. Army Corps of Engineers • Clean Water Act 401 Water Quality Certification from the North Coast Regional Water Quality Control Board * • Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife* • California Transportation Commission • Biological Opinion from the United States Fish and Wildlife Service • State Coastal Development Permit from the California Coastal Commission* • Local Coastal Development Permit from Sonoma County* • Section 4(f) Concurrence from the California Department of Parks and Recreation

Melanie Brent

Melanie Brent
Deputy District Director, Environmental
Planning and Engineering
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District 4

10/06/2020
Date

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Negative Declaration

Project Description

The California Department of Transportation (Caltrans) prepared this Initial Study with Negative Declaration for the Sonoma 1 Culvert Rehabilitation Project – North (Project) in Sonoma County, California. The Project is located along State Route 1, from post mile 41.2 to 54.6 (Figure 1-1, Project Location). The Project proposes to replace 27 culverts from 0.2 mile north of Miller Creek to 0.1 mile north of Vantage Road at various locations. Additional Project information is provided in Chapter 2.

Determination

Caltrans has prepared an Initial Study for this Project. Following public review, Caltrans determined that the Project would not have a significant effect on the environment for the following reasons:

The Project would have no impact on air quality, geology and soils, land use and planning, mineral resources, noise, population and housing, public services, recreation, and utilities and service systems.

The Project would have less than significant impacts to aesthetics, agriculture and forest resources, biological resources, energy, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, transportation and traffic, tribal cultural resources, wildfires, and mandatory findings of significance.

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District 4

10/06/2020
Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the California Environmental Quality Act (CEQA) lead agency and sponsor for the proposed Sonoma 1 Culvert Rehabilitation Project – North (Project) and has prepared this Initial Study with Negative Declaration.

The Project is located along State Route (SR) 1 in Sonoma County, California, from post mile (PM) 41.2 to 54.6 (Figure 1-1, Project Location). The scope of the Project is to replace 27 existing damaged or failed culverts (from south to north) from 0.2 mile north of Miller Creek in Salt Point State Park, to 0.1 mile north of Vantage Road within the community of Sea Ranch.

This Project is funded by the State Highway Operation and Protection Program 201.151 for the 2021-2022 fiscal year, under the Drainage System Restoration Projects.

1.2 Purpose

The purpose of the Project is to rehabilitate the culverts within the Project corridor by repair or replacement, to preserve the structural integrity of SR 1 and ensure public safety.

1.3 Need

The Project is needed because through routine inspections and conditions assessments, these 27 culverts were determined to have deficiencies, be deteriorated, failed or otherwise beyond the end of their service life. Addressing these deficiencies would prevent failure of the culverts and undermining of SR 1 or localized flooding and would avoid impacts to the safety of the traveling public.

Vicinity Map

On Route 1 in Sonoma County

Chapter 2 Project Description

2.1 Introduction

SR 1 is a 549-mile-long major north-south State highway that runs along most of the Pacific coastline, with long sections situated on coastal bluffs and others along beaches. Various portions of SR 1 are designated as either the Pacific Coast Highway, Cabrillo Highway, Shoreline Highway, or Coast Highway. Its southern terminus is at Interstate 5 near Dana Point in Orange County and its northern terminus is at Highway 101 near Leggett in Mendocino County. SR 1 also runs concurrently with Highway 101 in some locations, most notably through a 54-mile (87-kilometer) stretch in Ventura and Santa Barbara Counties, and also across the Golden Gate Bridge near San Francisco. In Sonoma County, SR 1 is categorized as an Eligible California Scenic Highway (not officially designated as a California Scenic Highway).

The Project footprint is located along the northern coastline of Sonoma County. This segment of SR 1 is not on any major interregional network, but it provides access from the San Francisco Bay area to recreational areas, including Sonoma State Beaches, along the Pacific coast. It is an important connector between local residents and businesses of unincorporated Sonoma County, is the only road connecting several coastal communities, and is critical for access of emergency services to these areas.

The 13-mile stretch along SR 1 from PM 41.2 to PM 54.6 is defined for this Project as the "Project corridor" (Figure 1-1). The Project corridor is primarily a two-lane rural conventional highway that runs north/south through forested, rural residential, agricultural. and coastal areas. SR 1 through the Project corridor consists of two 11-foot-wide lanes with zero- to one-foot-wide shoulders. Due to the many sharp curves within the Project corridor, posted speed limits range from 20 mph to 40 mph.

2.2 Culvert Work

In 2016, the Caltrans Office of Hydraulics performed field surveys along the Project corridor and determined that several drainage systems have either materially or hydraulically deteriorated, with conditions including, but not limited to: corroding and rusted linings, deteriorating flare ends, inadequate pipe sizes, erosion of upstream and downstream banks, and debris build-up. The original scope of the Project included rehabilitation of 26 locations; however, 2 of the locations (PMs 43.36 and 50.59) were addressed by a Caltrans Director's Orders (a Caltrans process to expedite

emergency work), and thus they were removed from the scope of the Project. Supplemental field surveys identified three additional culvert locations (PM 41.56, 51.56, and 54.06) also in need of rehabilitation which were added to the scope of the Project. The total number of pipes to be replaced is now 27 (Table 2-1 and Figure 2-1). The areas around the culverts that would potentially be impacted by construction activities are identified in Figure 2-1 as footprint areas.

At each location, the main culvert pipe would be removed and replaced with a new pipe of the same or larger size, as listed in Table 2-1 and illustrated in Figure 2-1. The existing culverts are composed of either corrugated metal or reinforced concrete materials. Final culvert material types would be determined during the design phase.

Table 2-1 Project Design Elements

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
1	41.22	14 × 22 arch	40	corrugated steel pipe arch (CSPA)	• Replace with a 40-foot-long CSPA that is 21 inches wide and 15 feet tall. • Grading to re-establish swale along northbound direction. • Grading to reestablish ditch at downstream end.
2	41.52	12	50	reinforced concrete pipe (RCP)	• Replace with 40-foot-long CSPA that is 12 inches in diameter. • Grading at upstream and downstream ends.
3	41.56	12	55	RCP	• Replace with a 55-foot-long RCP that is 12 inches in diameter. • Grading at upstream and downstream ends.
4	41.65	12	40	corrugated steel pipe (CSP)	• Replace with a 40-foot-long CSPA that is 12 inches in diameter. • Grading at the upstream and downstream ends.
5	42.11	18	40	CSP	• Replace with a 40-foot-long pipe that is 18 inches in diameter. • Grading at upstream and downstream ends. • Place inlet with 2 side openings at upstream and downstream ends.

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
6	42.36	18	40	CSP	• Replace with a 45-foot-long pipe that is 18 inches in diameter. • New head wall (HW) at upstream end. • Grading at downstream end.
7	42.41	18	40	CSP	• Replace with a 40-foot-long pipe that is 30 inches in diameter. • New HW at upstream end. • New rock slope protection (RSP) at downstream end.
8	42.93	12	40	CSP	• Replace with a 50-foot-long pipe that is 18 inches in diameter. • Regrade ditch along northbound. • Grading at upstream and downstream ends.
9	43.37	18	35	RCP	• Replace with a 40-foot-long pipe that is 18 inches in diameter • New 28-foot-long CSPA that is 20 inches wide 30 inches tall and that connects to 2 new inlets (with side openings) in the northbound ditch. • New RSP at the downstream end to fill scour hole. • New flared end section (FES) at downstream end. • Grading at upstream end.
10	43.44	18	30	RCP	• Replace with a 35-foot-long pipe that is 18 inches in diameter. • Grading at upstream and downstream ends. • New FES and RSP at the downstream end.
11	48.32	18	40	CSP	• Replace with a 50-foot-long pipe that is 18 inches in diameter. • New RSP at downstream end
12	49.33	18	45	CSP	• Replace with a 70-foot-long pipe that is 18 inches in diameter. • Grading of swales at northbound. • New RSP at downstream end.
13	49.5	18	75	RCP	• Replace with a 75-foot-long pipe that is 36 inches in diameter. • New RSP at downstream end.

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
14	49.64	18	35	CSP	• Replace with a 40-foot-long pipe that is 35 inches wide and 24 inches tall. • New RSP at downstream end. • Grading at downstream end.
15	51.52	24	45	RCP	• Replace with a 50-foot-long pipe that is 36 inches in diameter. • New FES at both ends, • New RSP at downstream end, • Grading to re-establish roadside ditch on northbound end.
16	51.56	36	43	CSP	• Replace with a 43-foot-long CSP that is 36 inches in diameter. • Grade ditch at upstream end.
17	51.94	30	80	CSP	• Replace with an 80-foot-long CSPA that is 25 inches wide and 24 inches tall. • Grading upstream and downstream ends to improve entrances into pipes.
18	53.15	12	35	RCP	• Replace with a 35-foot-long CSPA that is 21 inches wide and 15 inches tall. • Grading at upstream and downstream ends to accommodate larger pipe.
19	53.34	48	60	CSP	• Replace with a 60-foot-long pipe that is 48 inches in diameter. • New HW at upstream and downstream ends. • Grading to re-establish roadside ditch at northbound. • Grading at downstream end.
20	53.59	52 × 32	50	CSPA	• Replace with a 50-foot-wide CSPA that is 45 inches wide with a height of 33 inches. • Grading upstream and downstream ends.
21	53.64	24	50	CSP	• Replace with a 50-foot-long pipe that is 49 inches wide and 33 inches tall. • Grading to re-establish ditch on northbound end. • Grading downstream.

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
22	53.67	18 ×12	40	CSPA	• Abandon existing pipe. • Remove existing HW. • New 40-foot-long CSPA that is 28 inches wide and 20 inches tall located south of the existing pipe. • Grading at upstream and downstream ends.
23	54.06	18	59	RCP	• Replace with a 60-foot-long RCP that is 48 inches in diameter. • New RSP at outlet.
24	54.12	18	40	CSP	• Replace with a 40-foot-long pipe that is 24 inches in diameter. • New RSP at downstream end. • Grading at both ends.
25	54.26	12	40	CSP	• Replace with a 40-foot-long pipe that is 18 inches in diameter. • Grading at both ends.
26	54.48	Two pipes, 12 and 18	Combined length 55	RCP/CSP	• Replace with a 65-foot-long pipe that is 18 inches in diameter. • New HW at upstream end. • Reestablish ditches on northbound end. • Grading at inlet and outlet.
27	54.65	Two pipes, 12 and 12	Combined length 40	RCP/CSP	• Replace with a 40-foot-long pipe that is 18 inches in diameter with straight alignment.

Culvert design elements that are included at select locations are described in the following paragraphs, summarized in Table 2-1, and shown on Figure 2-1.

Rock Slope Protection (RSP): RSP consists of a layer of rocks used to stabilize slopes and prevent erosion (Figure 2-3). RSP would be installed downstream of 10 culverts (PMs 42.41, 43.37, 43.44, 48.32, 49.33, 49.5, 49.64, 51.52, 54.06, and 54.12). To install RSP, loose rock and sediment would be removed and the slope graded to a depth of relatively stable sediment. Gravel, coconut coir matting, tackifying hydroseeding compounds, or engineered streambed material would then be placed over the sediment and covered with large rocks, ranging from approximately 80-lbs to 1-ton. For this Project soil-filled RSP will be used as appropriate. Soil-filled RSP would consist of using a blend of local soil and fine compost placed in rock voids as a topsoil cover and seeded with native plant species. Rock used in RSP would blend with the native rock and soil.

Headwall: New headwalls would be installed at four culverts (PMs 42.36, 42.41, 53.34, and 54.48). Headwalls are concrete walls typically installed at the upstream end of a culvert; but may also be constructed at the downstream end. Headwalls are used to prevent the creation of an overly steep side slope, to improve water flow, to provide anchoring support to prevent the culvert from dislodging under excessive pressure, to control erosion and scour from high water velocities, and to prevent adjacent soil from sloughing into the waterway and culvert openings. Headwalls also confine pipe segments to prevent joint separation which may lead to leaks into the soil around the culvert. Approximate headwall dimensions are nine feet wide by five feet high, with a five-foot-deep base.

Flared End Section: Flared end sections, proposed at three culverts (PMs 43.37, 43.44, and 51.52), are a type of end treatment used at the entrance of a culvert to improve the hydraulic efficiency of the drainage system and retention of the surrounding embankment by preventing scouring and undercutting.

Drainage Inlet: A drainage inlet is the opening in the storm drainage system that collects water from roads and conveys it to the storm drain system. At two culverts (PMs 42.11, and 43.37), existing drainage inlets would be replaced. In addition, a new drainage inlet with an inlet junction structure would be constructed downstream. No other locations have or need new drainage inlets.

Ditch Grading: Ditch grading would occur upstream and/or downstream of most culverts to allow positive water flow and reduce potential erosion. The dimension of grading at each location depends on the existing topography and the amount of soil/earth to be moved in order to direct runoff into adjacent drainage systems.

In addition to the replacement of the main culvert pipe, additional features would be constructed at certain culverts. “Project Features,” which can include both design elements of the Project and/or standardized measures that are typically used in Caltrans projects (such as best management practices [BMPs] and measures included in the Standard Plans and Specifications or as Standard Special Provisions), are considered an integral part of the Project and have been considered prior to any significance determinations documented in Chapter 3 of this document. Project Features are described in various resource sections in Chapter 3 and are compiled in Appendix B.

2.3 Construction Methodology, Schedule, and Equipment

2.3.1 Methodology

The scope of work for the Project includes construction, staging, and equipment and materials storage. All 27 culverts would be replaced using open cut construction. Before ground disturbing activities begin, construction area signs, environmentally sensitive area (ESA) fencing, and associated temporary standard Caltrans BMPs would be installed.

Caltrans would develop a traffic management plan (TMP) to minimize impacts to and ensure the safety of the traveling public (Section 2.3.4 Construction Staging, and Worker Safety). After the TMP is implemented the Project is expected to be built in three stages. The first stage includes vegetation clearing and grubbing. In the second stage, a trench would be excavated across the closed lane and the portion of the existing pipe located in the closed lane would be replaced. The trench would be backfilled, potentially with rapid-setting slurry cement, and paved. Once completed on one side of SR 1, the same process would occur on the other side with one lane remaining open to traffic. The pipe halves would be joined together in the trench once the second portion of pipe is positioned in the open trench. Excess soil may be reused for grading or would be off-hauled immediately. Work on SR 1 not completed in a single working day would be covered with steel plates until the next working day.

In the third stage, off-pavement work such as RSP placement, drainage inlet, headwall and flared end section installation, ditch grading, permanent erosion control measures, and highway planting would occur.

Streams in the Project corridor are generally ephemeral (have water just for brief periods as a result of rainfall) or intermittent (have water during the wet season but are normally dry during the summer). The water conveyed by the culvert system falls under the jurisdiction of the United States Army Corps of Engineers (USACE) defined as Waters of the United States. Construction within regulated creeks would be restricted to the dry season (between June 15 and October 15).

Temporary stream diversions during construction would be implemented as needed. If stream diversion is determined to be necessary, methods would be finalized during the design phase and in consultation with the regulatory agencies.

2.3.2 Utilites Relocation

A fiber optic cable owned by Frontier Communications is buried about one foot beneath the northbound lane of SR 1 from approximately PM 30.0 to PM 52.0. Frontier Communications will be contacted and notified of construction schedules for proposed culvert replacement work and to determine any special instructions to protect the fiber optic cable. The construction contractor would be made aware of the fiber optic cable during excavation, placement, and backfill of the culverts as well as measures for fiber optic cable avoidance. Utilities verification including potholing would also be required in the design phase. Other utilities in the area include overhead electrical lines that run along or near SR 1, and some underground electrical conduits in the small communities along SR 1. No water or sewer lines run adjacent to SR 1, but there may be local water and sewer owners in Stewarts Point or Sea Ranch near SR 1 which have the potential to be in conflict with construction. Verification of utilities and coordination with utility companies occurs during the Project design phase; these considerations will be incorporated into the Project's construction plans.

2.3.3 Fences and Guardrails

Fences and guardrails are within the Project limits. Any fences and guardrails damaged or removed because of construction activities will be replaced with Midwest Guardrail System (MGS).

2.3.4 Construction Staging, Maintenance and Worker Safety

Because SR 1 is a two-lane highway with zero to one-foot shoulders in the Project corridor, closure of one lane of traffic would be necessary during construction. One-way traffic control would be used to divert traffic with a maximum of 15 minutes' delay expected. Flaggers would be used to stop traffic at either end of the construction area, while portable cones would be used to separate the lane open to traffic from the lane under construction. In areas where headwalls will be constructed, temporary railing Type-K (K-rail) may be needed for separation; determination of the delineation method to be used at each location will be finalized during the design phase. The ideal work window will be at night to have minimal impact to the traveling public. Directional lighting and/or shielding in any location where lights would impact highway users or nearby residences shall be used. Construction Zone Enhanced Enforcement Program (COZEEP) will be required to prepared prior to construction as well as a Traffic Management Plan.

Construction staging would be limited to areas within the Caltrans right of way. Throughout the Project limits, several areas have been identified as materials and equipment staging areas. At the southern extent of the Project, the wide area at PM 41.22, east of SR 1, just opposite of Stump Beach State Park would be used. West of SR 1, PMs 41.65 and 42.15 have also been identified as potential staging areas. Existing motor vehicle pull out areas nearby with dimensions approximately 15 feet wide by 80 feet long (PMs 42.86, 49.36, 51.70, 52.70, 53.76, 54.12, and 54.32) could also be used as staging areas.

To protect construction workers and the traveling public, traffic control will be in place while construction activities are underway. A detailed TMP (refer to Transportation and Traffic section) will be developed during the design phase to ensure a safe construction zone.

2.3.5 Schedule

Construction would occur between January 2023 and May 2024 and would take approximately 120 working days. Construction restrictions such as limiting construction within streams and drainages to the dry season (June 15 to October 15) would be implemented during construction. In addition, vegetation removal would be scheduled to avoid impacts to nesting birds (usually between February 1 to September 30). It is anticipated that construction work would occur both during the day and at night depending on the culvert location and the contractor.

2.3.6 Equipment and Materials

Construction equipment used for this Project would include, but not be limited to, excavators, backhoes, skiploaders, rollers, pavers, cement trucks, dump trucks, sawcutting machines, generators, light towers, water trucks, Portable Changeable Message Signs (PCMS), flatbeds, etc.

2.4 Right of Way Requirements

Nineteen of the locations will require areas outside Caltrans right of way to access the culverts. Five locations will require drainage work (primarily regrading of the roadside ditches/swales) on either side of SR 1, for a total of 24 proposed Temporary Construction Easements (TCEs). Nine Permanent Drainage Easements (PDEs) are also proposed for the Project for the portions of culverts that will extend beyond Caltrans right of way, and for the placement of RSP. (Table 2-2 TCEs and PDEs by Location).

Table 2-2 TCEs and PDEs by Location

Location	Postmile	TCE West/East of roadway	PDE West/East of roadway
1	41.22	west (300ft^2)	
3	41.56	west (100ft^2)	
4	41.65	west (200ft^2)	
6	42.36	west (100ft^2)	
7	42.41	east (200ft^2) + west (250ft^2)	west (250ft^2)
8	42.93	west (100ft^2)	
11	48.32	west (200ft^2)	west (200ft^2)
12	49.33	west (750ft^2)	west (750ft^2)
13	49.5	east (450ft^2) + west (1,050ft^2)	east (450ft^2) + west (1,050ft^2)
14	49.64	west (600ft^2)	west (600ft^2)
15	51.52	west (750ft^2)	west (750ft^2)
16	51.56	west (225ft^2)	west (225ft^2)
17	51.94	east (450ft^2) + west (200ft^2)	east (450ft^2)
18	53.15	west (1,050ft^2)	
19	53.34	east (100ft^2) + west (100ft^2)	
20	53.59	east (300ft^2) + west (375ft^2)	
22	53.67	west (150ft^2)	
23	54.06	west (225ft^2)	west (225ft^2)
25	54.26	west (200ft^2)	

2.5 Impacts on Vegetation

Vegetation clearing and grubbing would occur in the work area immediately adjacent to the 27 culverts, within the Caltrans right of way, and the proposed TCEs and PDEs. There are 73 trees within the Project study area (BSA), 41 of which are within the Project footprint. It is anticipated that the removal of trees will not be necessary for Project construction. However, if during construction, it is determined to be necessary, trees within the BSA may be trimmed or removed to facilitate construction access. Attempts to minimize tree removal will include trimming wherever possible. Each individual tree location will be assessed by the biologist and coordinated with Caltrans construction personnel to see if the work can be performed without affecting the trees. Trees with a diameter at breast height (DBH) greater than two inches that are removed will be replaced at the following ratios: 3:1 for native trees and 1:1 for non-native trees. If necessary, re-planting of trees shall be accommodated within the

Project limits after construction is complete. Trees and vegetation outside the culvert work areas would be protected from construction activities using high visibility fencing, flagging or similar methods to identify limits of the construction areas.

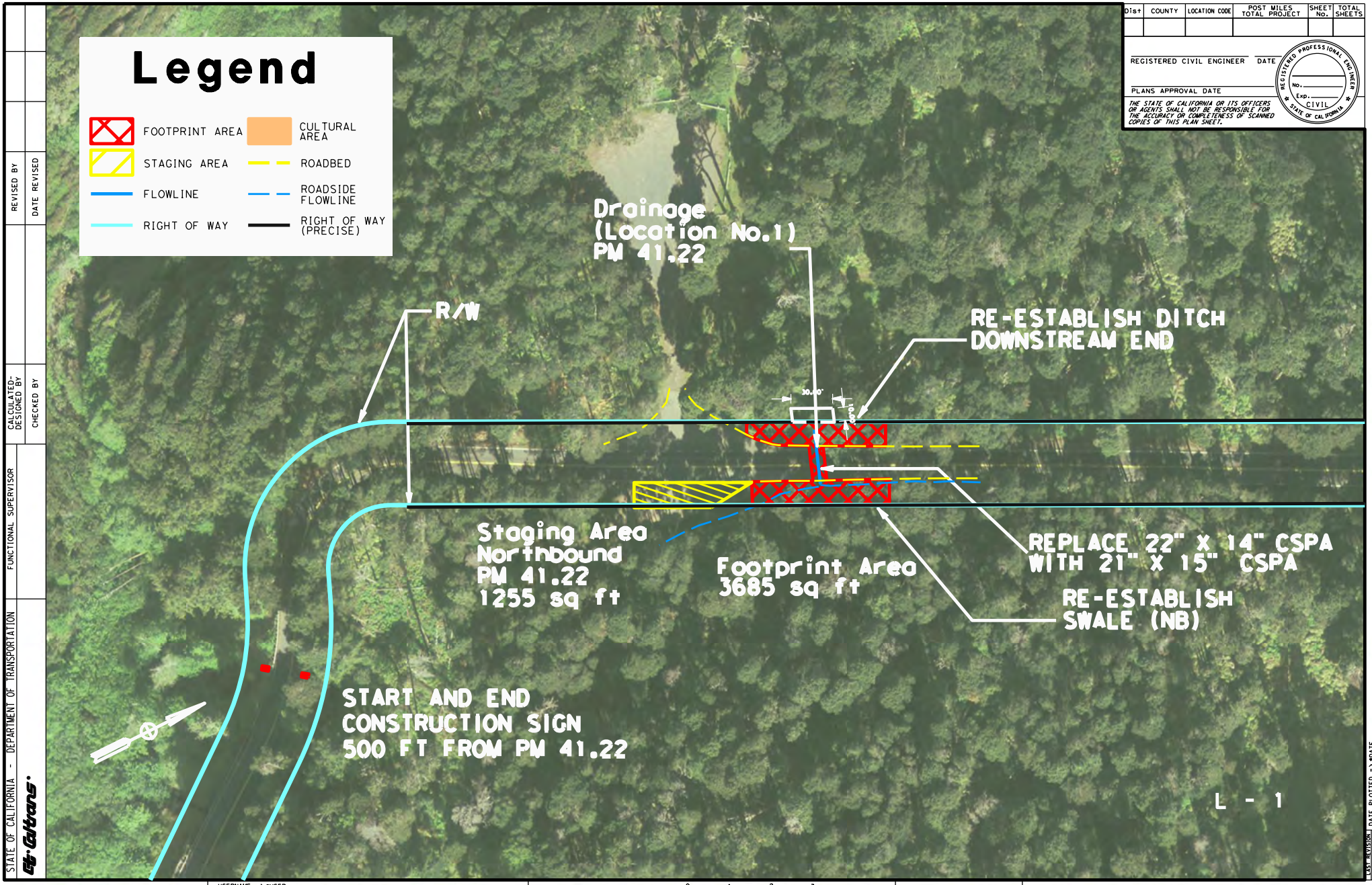
Grasses and shrubs removed during construction will be replanted with native species appropriate for the location, using closely matched seed to the maximum extent possible (AMM AES-1). Areas of RSP will be covered with amended soil and vegetated if such treatment is deemed appropriate. It is anticipated that if replacement tree planting is necessary, a five-year plant establishment period (PEP) (AMM AES-1) would be included. Jurisdictional areas impacted by tree or vegetation removal, PEPs will be coordinated through permitting requirements during the design phase. A truck watering irrigation system will be used during the PEP period as needed. The alignment of new or replaced down drains would be adjusted during the design phase to reduce impact to trees and vegetation.

2.6 Permits and Approvals Needed

Table 2-3 summarizes the permits required for the Project by the respective agencies as well as permit status.

Table 2-3 Required Permits

Agency	Permit	Permit Status
U.S. Army Corps of Engineers	Section 404 Permit	Application submittal anticipated during next Project phase
North Coast Regional Water Quality Control Board	Section 401 Water Quality Certification	Application submittal anticipated during next Project phase
California Department of Fish and Wildlife	Section 1602 Lake and Streambed Alteration Agreement	Application submittal anticipated during next Project phase
United States Fish and Wildlife Service	Biological Opinion	Application submitted during Project approval and environmental document (PA&ED) phase
Sonoma County	Local Coastal Development Permit	Application submittal anticipated during next Project phase



Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

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Legend

- FOOTPRINT AREA
- STAGING AREA
- FLOWLINE
- RIGHT OF WAY
- ROADBED
- ROADSIDE FLOWLINE
- RIGHT OF WAY (PRECISE)

Drainage (Location No.3) PM 41.56

Drainage (Location No.2) PM 41.52

Footprint Area 4005 sq ft

10.00'

10.00'

Footprint Area 2050 sq ft

R/W

REPLACE 12" RCP WITH 21" X 15" CSPA

GRADE UPSTREAM

REPLACE 12" RCP WITH 24" X 15" RCP

GRADE UPSTREAM AND DOWNSTREAM

L - 2

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Legend

- FOOTPRINT AREA
- STAGING AREA
- FLOWLINE
- RIGHT OF WAY
- ROADBED
- ROADSIDE FLOWLINE
- RIGHT OF WAY (PRECISE)

Drainage
(Location No.4)
PM 41.65

TCE
10.00'
20.00'

R/W

GRADE DOWNSTREAM

Staging Area
Southbound
PM 41.65
1615 sq ft

Footprint Area
4090 sq ft

REPLACE 12" CSP
WITH 21" X 15" CSPA

GRADE UPSTREAM

L - 3

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CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

USERNAME => $USER

RELATIVE PLOTTER SCALE 0 1 2 3

UNIT 2000

PROJECT NUMBER & PHASE 0000000004

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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Legend

- FOOTPRINT AREA
- STAGING AREA
- FLOWLINE
- RIGHT OF WAY
- ROADBED
- ROADSIDE FLOWLINE
- RIGHT OF WAY (PRECISE)

Drainage
(Location No.5)
PM 42.11

GRADE DOWNSTREAM,
G2 INLET JUST INSIDE
OF STATE R/W

Staging Area
Southbound
PM 42.15
1120 sq ft

R/W

REPLACE 18" CSP WITH 24" CSP

Footprint Area
3935 sq ft

INLET WITH TWO SIDE OPENINGS

L - 4

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CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

USERNAME => $USER | RELATIVE PLOTTER SCALE 0 1 2 3 | UNIT 9999 | PROJECT NUMBER & PHASE 0000000000004

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Caltrans

GRADE DOWNSTREAM

Drainage
(Location No.6)
PM 42.36

Footprint Area
2705 sq ft

0.00

R/W

RSP

15.00'

25.00'

Footprint Area
800 sq ft

Drainage
(Location No.7)
PM 42.41

REPLACE 18" CSP
WITH 18" CSP

PLACE HW UPSTREAM

20.00'

10.00'

REPLACE 18" CSP
WITH 30" CSP

L - 5

LAST REVISION | DATE PLOTTED = !DATE

USERNAME =>$USER | RELATIVE BORDER SCALE 0 1 2 3 | HWY | PROJECT NUMBER & PHASE 0000000004

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Staging Area
Southbound
PM 42.86
1225 sq ft

R/W

Drainage
(Location No.8)
PM 42.93

TCE

20.00'

10.00'

Footprint Area
4020 sq ft

GRADE UPSTREAM AND DOWNSTREAM

REPLACE 12" CSP WITH 18" CSP

L - 6

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CALCULATED-DESIGNED BY | CHECKED BY

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Caltrans

USERNAME => $USER

RELATIVE PLOTTER SCALE 0 1 2 3

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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REVISED BY | DATE REVISED | CALCULATED-DESIGNED BY | CHECKED BY | FUNCTIONAL SUPERVISOR

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Caltrans

USERNAME => $USER | RELATIVE PLOTTER SCALE 0 1 2 3 | UNIT 2000 | PROJECT NUMBER & PHASE 0000000004 | LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.11)
PM 48.32

Staging Area
Southbound
PM 48.32
685 sq ft

TCE

R/W

Footprint Area
730 sq ft

RSP

L - 8

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USERNAME => $USER

RELATIVE PLOTTER SCALE 0 1 2 3

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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Drainage
(Location No.12)
PM 49.33

PDE

30.00'

25.00'

RSP

R/W

Staging Area
Southbound
PM 49.36
1285 sq ft

GRADE SWALES

Footprint Area
2900 sq ft

REPLACE 18" CSP
WITH 18" CSP

L - 9

REVISED BY
DATE REVISED
CALCULATED-DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

USERNAME => $USER
RELATIVE BORDER SCALE 0 1 2 3
LAST REVISION DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.13)
PM 49.50

30.00'

35.00'

PDE

RSP

R/W

30.00'

15.00'

Footprint Area
800 sq ft

REPLACE 18" RCP WITH 36" RCP

L - 10

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

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Caltrans

USERNAME => $USER

RELATIVE PLOTTER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.14)
PM 49.64

R/W

30.00'

20.00'

PDE

RSP

Footprint Area
765 sq ft

REPLACE 18" CSP WITH 35" X 24" CSPA

L - 11

LAST REVISION

DATE PLOTTED => &DATE

USERNAME => &USER

RELATIVE BORDER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000004

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage (Location No.15) PM 51.52

Drainage (Location No.16) PM 51.56

30.00'

25.00'

Footprint Area 1605 sq ft

PDE

FES AND RSP

15.00'

15.00'

PDE

Footprint Area 2600 sq ft

RE-ESTABLISH ROADSIDE DITCH REMOVE TREE

MIGHT HAVE TO REMOVE TREE

REPLACE 24" RCP WITH 36" RCP

FES

GRADING

REPLACE 36" CSP WITH 36" CSP

R/W

L - 12

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USERNAME => *USER

RELATIVE PLOTTER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

LAST REVISION | DATE PLOTTED => *DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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Staging Area
Northbound and Southbound
PM 51.70
NB 3040 sq ft
SB 2995 sq ft

L - 13

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Caltrans

FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

USERNAME =\> $USER

RELATIVE BORDER SCALE 0 1 2 3

LAST REVISION DATE PLOTTED =\> $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.17)
PM 51.94

Staging Area
Southbound
PM 51.94
825 sq ft

10.00' TCE

12.00'

Footprint Area
1615 sq ft

PDE

10.00'

45.00'

R/W

REPLACE 30" CSP WITH 35" X 24" CSPA

GRADE PIPE ENTRANCE

L - 14

LAST REVISION DATE PLOTTED = $DATE

USERNAME => $USER

RELATIVE BORDER SCALE 0 1 2 3

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Staging Area
Southbound
PM 52.70
1905 sq ft

R/W

L - 15

REVISED BY	DATE REVISED
CALCULATED-DESIGNED BY	
CHECKED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FUNCTIONAL SUPERVISOR

USERNAME => $USER

RELATIVE BORDER SCALE 0 1 2 3

LAST REVISION DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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REVISED BY

DATE REVISED

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

Drainage
(Location No.18)
PM 53.15

30.00'

35.00'

TCE

GRADING

R/W

Footprint Area
5115 sq ft

REPLACE 12" RCP WITH 21" X 15" CSPA

L - 16

LAST REVISION

DATE PLOTTED = %DATE

USERNAME =\>%USER

RELATIVE PLOTTER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.19)
PM 53.34

R/W

Footprint Area
1650 sq ft

PLACE HW UPSTREAM AND DOWNSTREAM

TCE

REPLACE 48" CSP WITH 48" CSP

RE-ESTABLISH ROADSIDE DITCH

L - 17

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

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Caltrans

USERNAME => $USER

RELATIVE PLOTTER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

LAST REVISION DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage (Location No.22) PM 53.67

ABANDON 18"X12" CSPA

Drainage (Location No.21) PM 53.64

TCE

Footprint Area 5325 sq ft

Drainage (Location No.20) PM 53.59

REPLACE 24" CSP WITH 28" X 20" CSPA

28" X 20" CSPA

GRADING

Footprint Area 4955 sq ft

TCE

TCE

Footprint Area 1340 sq ft

GRADE DITCH

REMOVE EXISTING HW

GRADE UPSTREAM AND DOWNSTREAM

TCE

REPLACE 52" X 32" CSPA WITH 49" X 33" CSPA

L - 18

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

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Caltrans

USERNAME => $USER

RELATIVE BORDER SCALE 0 1 2 3

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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R/W

Staging Area
Southbound
PM 53.76
2245 sq ft

L - 19

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FUNCTIONAL SUPERVISOR

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Caltrans

USERNAME =\> \$USER

RELATIVE PLOTTER SCALE 0 1 2 3

LAST REVISION | DATE PLOTTED =\> \$DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.23)
PM 54.06

Drainage
(Location No.24)
PM 54.12

Staging Area
Southbound
PM 54.12
1530 sq ft

R/W

GRADING

RSP

Footprint Area
2205 sq ft

15.00'

15.00'

RSP

Footprint Area
4620 sq ft

REPLACE 18" CSP WITH 24" CSP

REPLACE 18" RCP
WITH 24" RCP

Manhole

L - 20

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FUNCTIONAL SUPERVISOR

CALCULATED-
DESIGNED BY

CHECKED

REVISED BY

DATE REVISED

LAST REVISION DATE PLOTTED = $DATE

USERNAME => $USER

RELATIVE BORDER SCALE 0 1 2 3

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

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Drainage
(Location No.25)
PM 54.26

TCE
20.00'
10.00'

Footprint Area
1755 sq ft

GRADING

R/W

Staging Area
Southbound
PM 54.32
1060 sq ft

REPLACE 12" CSP WITH 18" CSP

L - 21

REVISED BY | DATE REVISED

CALCULATED-
DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

USERNAME => $USER

RELATIVE BORDER SCALE 0 1 2 3

LAST REVISION | DATE PLOTTED => $DATE

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PLANS APPROVAL DATE

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REPAIR SINKHOLE

R/W

Drainage
(Location No.26)
PM 54.48

Footprint Area
6050 sq ft

REPLACE EXISTING COMBINATION
PIPE WITH 18" CSP

GRADING

PLACE HW

RE-ESTABLISH ROADSIDE DITCH

CULTURAL AREA

L - 22

LAST REVISION | DATE PLOTTED = 9 DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

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REVISED BY

DATE REVISED

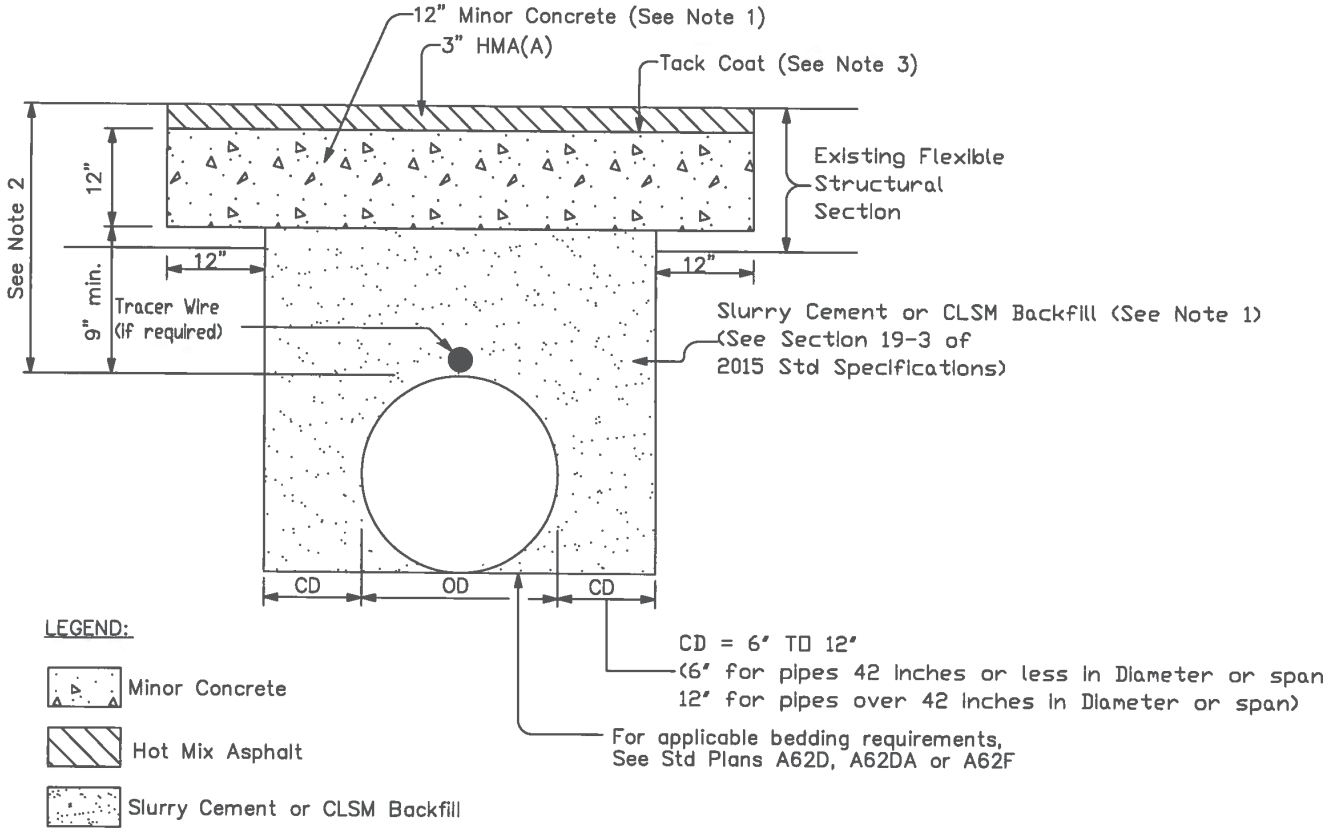
LAST REVISION

DATE PLOTTED => $DATE

USERNAME => $USER

RELATIVE BORDER SCALE 0 1 2 3

CASE 1: FOR TRAFFIC INDEX (TI) LESS THAN OR EQUAL TO 12



NOTES:

1. Concrete cap may be Rapid Strength Concrete (RSC); if RSC is used, replace the Slurry Cement or CLSM Backfill with Lean Concrete Backfill or RSC depending upon the project's time constraints.
2. For new installations, minimum depth of cover requirements are to follow guidelines in the Encroachment Permits Manual or Highway Design Manual. When cover over a replacement pipe/encasement pipe is less than 24", a Special Design is necessary (for in-house projects, refer to HQ Drainage Detail Library).
3. Tack Coat (Asphaltic Emulsion) shall be applied prior to placing HMA(A).
4. All trench work subject to state regulations and inspection.
5. All materials, workmanship, testing, and inspections shall comply with Caltrans Standard Specifications and project-specific Special Provisions.
6. Use of this detail is applicable if high groundwater conditions do not exist within the trench.

ABBREVIATIONS:

CD = Clear Distance
HMA(A) = Hot Mix Asphalt Type A
OD = Outside Diameter of Utility or Culvert
CLSM = Controlled Low-Strength Material

REVISED 12/12/2016

FIGURE 2-2
Typical Culvert Cross-Section
Sonoma 1 Culvert Rehabilitation Project - North
EA 1K750, SON-1 Post Mile 41.2 to 54.6
Sonoma County, California

Chapter 3 California Environmental Quality Act Evaluation

The following discussions evaluate potential environmental impacts related to the CEQA checklist to comply with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091). The environmental analysis considers potential impacts of the proposed Project, as described in Chapter 2.

A. Environmental Factors Potentially Affected

As part of the scoping and environmental analysis carried out for the Project, the following environmental issues were considered, but no impacts were identified: air quality, geology and soils, land use and planning, mineral resources, noise, population and housing, public services, recreation, tribal cultural resources, and utilities and service systems. The environmental factors checked in this section would be potentially affected by this Project. Further analysis of the environmental factors checked in the below box is included in the following sections.

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

B. Determination

On the basis of this initial evaluation:

X	I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 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: Lindsay Vivian	**Date:** 10/06/2020
Printed Name: Lindsay Vivian	

CEQA Environmental Checklist

This checklist (presented at the beginning of each resource section below in the form of a table listing the pertinent questions applicable to the resource and four columns where the degree of impact is indicated) identifies physical, biological, social, and economic factors that might be affected by the Project. In many cases, background studies performed in connection with the Project indicate that there are no substantial adverse impacts to a particular resource that would rise to the level of significance under CEQA. A “no impact” answer in the last column reflects this determination. The words "significant" and "significance" used throughout the checklist are related to CEQA-based determinations and assessing whether a project may result in significant environmental impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

As noted previously, Project Features, which may include both design elements of this Project and standardized measures that are applied to all or most Caltrans Projects, such as standard Caltrans BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the Project and are considered prior to any significance determinations. A list of this Project’s Project Features and Avoidance and Minimization Measures (AMMs) can be reviewed in Appendix B.

Aesthetics

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
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?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

A Visual Impact Assessment (VIA) was completed by the Caltrans Office of Landscape Architecture on September 23, 2019 (Caltrans 2019a).

The Project corridor traverses an area of high scenic value, with very few elements detracting from the high-quality visual landscape. Throughout the Project limits, SR 1 is largely undeveloped and passes through areas of dense forests, grassy pasturelands, rural residences and marine terraces. Natural surroundings with the Pacific Ocean to the west dominate the viewshed rather than the highway itself. Being that the area is a distance from major population centers, SR1 is travelled relatively lightly, yet consistently, used by daily commuters, vacationers, bicyclists and others. Development along the Project corridor is limited and generally visually unobtrusive, including scattered residences, agricultural buildings, state park facilities, and a few shops. The Project terminates within the small community of Sea Ranch on the northern limits of the Project.

a, b, c, d) Less than Significant Impacts

The Project corridor occurs along a scenic stretch of SR 1 that is listed as being Eligible for Designation as a State Scenic Highway. Because the Project scope is limited to replacing culverts, the Project would not substantially affect a scenic vista, damage scenic resources, or degrade the existing visual character or quality of the view. The VIA concluded that the Project would not adversely affect any scenic resources such as a rock outcropping, a grouping of trees, or historic property. Project elements would not substantially affect the appearance of the SR 1 corridor and would be visually consistent with the character of the surrounding area.

AMMs AES-1 and AES-2 (presented below) would be incorporated into the Project design to minimize impacts to visual resources.

Temporary construction impacts to visual resources include vegetation removal, staging of materials and equipment, and lighting occurring from nightwork. These impacts would be temporary and would be minimized with the implementation of AMMs AES-3 to AES-6. It should be noted that revegetation for disturbed areas within, or adjacent to State Parks lands requires special conditions as noted in AMM REC-1 in the Recreation section of this document.

Project Features

Project Feature AES-1: Adhere to the *Final Sonoma State Route 1 Repair Guidelines.* Design elements will adhere to the *Final Sonoma State Route 1 Repair Guidelines* (Caltrans 2019b) (Guidelines) to the maximum extent feasible. During the design phase the Project will incorporate aesthetic treatments and be designed such design elements harmonize to the extent possible with the adjacent landscape, e.g., drainage elements will be colored to blend with their surroundings. Modifications to travel-way widths, shoulder widths and the roadway alignment are not part of the Project scope and will be avoided. The Guidelines integrate and balance safety, mobility, and maintenance goals with environmental values consistent with design best suited for the SR 1 corridor.

Project Feature AES-2: Avoid Unnecessary Removal of Vegetation. During construction, attempts will be made to avoid impacts to all vegetation and native trees. A qualified biologist, arborist, or landscape architect will work with the Resident Engineer and contractor to adjust the approach to construction work to avoid damage to or removal of native trees wherever possible.

Avoidance and Minimization Measures

AMM AES-1: Revegetate Disturbed Areas Upon Completion of Construction. Following construction, seeding with local varieties of native plants will enhance the visual quality and character of the Project corridor and help to quickly revegetate any disturbed areas. Areas of RSP will be covered with amended soil and vegetated if such treatment is deemed appropriate. Grasses and shrubs removed during construction will be replanted with native species appropriate for the location, using closely matched seed to the maximum extent possible. Where tree replanting is appropriate or required, trees will be grown from locally collected stock if feasible. All replacement planting, by seed or with propagated local varieties of native plants, will include a plant establishment period (PEP) of at least one year. Any revegetation installations that cannot recover to a comparable size within one year of the initial disturbance will require the establishment of a follow-up project that includes a PEP of up to five years "to provide confidence in replacement [planting] across a period of more variable conditions". A temporary truck-watering irrigation system will be provided as needed based on the type of plants, Project timing, and time of year.

AMM AES-2: Nighttime lighting. Nighttime lighting will be minimized to the extent possible. In areas where nighttime lighting is required, lights will be shielded, directed downward, and will only illuminate the Project work areas.

AMM AES-3: Treatment of RSP. If deemed appropriate, voids in the newly installed RSP will be backfilled with, and the RSP will then be covered with, topsoil that is a combination of uniformly blended local soil and fine compost. The RSP will then be seeded with local varieties of native seed, to the maximum extent possible. Rock used in RSP would blend with the native rock and soil.

Agriculture and Forest Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
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))?			X	
d) Result in the loss of forest land or conversion of forest land to non-forest use?			X	
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?			X	

The Project corridor is located in a rural area along the Sonoma County coast which contains agricultural lands including grazing and Farmlands of Local Importance; and forested land, including select parcels designated as Timber Production Zones (TPZ).

a) <u>No Impact</u>

Farmland of Local Importance exists within the Project area; however there is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located in or adjacent to culvert work areas. There would be no impact.

b) <u>Less than Significant Impact</u>

Although the Project would require four TCEs that encompass temporary impacts to Farmlands of Local Importance, there would be no permanent conversion of agricultural lands. In addition, where will be no impact to Williamson Act lands, as

none exist within the Project footprint. Project Feature FAR-1 (below) would ensure compatibility with agricultural lands present within, and adjacent to the Project footprint.

c) No Impact

Three Timber Production Zones (TPZs) exist within the Project footprint, two in the southern portion of the Project corridor (APN 109-021-017, APN 109-030-006), and one between the communities of Stewarts Point and Sea Ranch (APN 122-240-001). The two TPZs in the southern extent of the Project footprint are also within Salt Point State Park, property owned by California Department of Parks and Recreation (CDPR). A total of seven TCEs and two PDEs located on timberland will be needed to construct the Project. All areas of temporary and permanent impact beyond the Caltrans right of way and on TPZs, are located immediately adjacent to the highway.

Although the Project would temporarily disturb TPZs, and permanently convert minor portions (825 total square feet) of timberland, the Project consists of a compatible use as defined in Government Code Section 51004(h)(3) "A use integrally related to the growing, harvesting and processing of forest products, including but not limited to roads, log landings, and log storage areas." Because the Project will ensure the structural integrity of the highway, and because SR 1 is the only north-south thoroughfare in the Project boundaries the Project is a compatible use, not significantly detracting from growing and harvesting timber. Additionally, it is anticipated that the Project construction will not require the removal of any trees. Project Feature Timberlands (TIM)-1 (below), will ensure that the Project will maintain existing compatibility to the maximum extent practicable with TPZs present in, and adjacent to the Project footprint.

d) Less than Significant Impact

Forestland is defined as an area with at least 1 acre, containing at least 10 percent tree coverage. Timberlands are forestlands that in addition to a minimum tree coverage, are also capable of producing at least 20 cubic feet of commercial wood, per acre, per year (USDA 2016). Because timberland is by definition forestland, the loss or conversion of forestland to non-forest use is covered in previous subsection (c). Additionally, as mentioned in subsection (c) above, it is anticipated that Project construction will not require the removal of any trees. Temporary construction impacts from TCEs and PDEs to forest vegetation are also addressed in the Biological Resources section and would be minimized by implementation of Project Feature

BIO-1 and AMMs BIO-1 to BIO-13 (Biological Resources subsection in Section 3, and Appendix B).

e) No Impact

The Project would not involve other changes in the existing environment that would result in conversion of forest or agricultural land.

Project Features

Project Feature FAR-1: Farmlands. Temporarily impacted farmland will be restored to pre-existing conditions after Project construction.

Project Feature TIM-1: Timberlands. Temporarily impacted timberlands will be restored to pre-existing conditions after Project construction.

Air Quality

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
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?				X
c) Expose sensitive receptors to substantial pollutant concentrations?				X
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				X

An *Air Quality Memorandum* (Caltrans 2018k) was prepared for this Project.

a, b, c, d) <u>No Impact</u>

This culvert rehabilitation Project falls under "pavement resurfacing and/or rehabilitation" activities and is therefore exempt from air quality conformity determination under 40 Code of Federal Regulations (CFR) 93.126, [Table 2 – Exempt Projects: Safety, (i) Pavement resurfacing and/or rehabilitation, (ii) Emergency relief (23 U.S.C. 125), and (iii) Widening narrow pavements or reconstructing bridges (no additional travel lanes)]; therefore an air quality study is not required. However, the Project would be required to comply with Caltrans Standard Specification 14-9, Air Quality, which requires compliance with air-pollution control rules, regulations, ordinances, and statutes that apply in the Project area.

Construction air pollutants are expected to be minimal to negligible. The Project would not conflict with or obstruct implementation of an applicable air quality plan, result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions adversely affecting a substantial number of people. Potential impacts to air quality, including violation of air quality standards, criteria pollutants,

exposure of sensitive receptors to pollutants, and creation of odors, are not anticipated based on the scope of the proposed Project. Project Feature AQ-1 will help ensure that there are no impacts from fugitive dust.

Project Feature

Project Feature AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures will be implemented to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of an organic tackifier to control dust emissions will be included in the construction contract. Watering guidelines will be established by the contractor and approved by the Caltrans Resident Engineer. Any material stockpiles during construction will be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

Biological Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
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?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

A Natural Environment Study (NES) was prepared for the Project (Caltrans 2019i). The following text summarizes and analyzes the information presented in the NES.

The Biological Study Area (BSA) encompasses the areas surveyed to identify, evaluate and quantify the biological resources potentially affected by the Project, defined as the entire area of direct impacts, including a 20-foot radius around each culvert work areas that will potentially be disturbed or used during construction.

The 8.78-acre BSA contains portions of the highway prism, developed bare ground, potential waters of the U.S., and the following vegetation types: *Baccharis pilularis* alliance, native and non-native perennial coastal grasslands, Western North American Freshwater Marsh Macrogroup, *Pinus muricata* alliance, Eucalyptus semi-natural alliance, Sequoia sempervirens alliance, Vancouverian coastal riparian scrub, Vancouverian riparian deciduous forest, Southwestern North American riparian wash scrub, *Hesperocyparis macrocarpa* semi-natural alliance, and non-native shrubs.

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

The NES summarizes the special-status plant species and animal species, respectively, with potential to occur within the BSA (Caltrans 2019i). The potential for special-status listed wildlife species to occur within the BSA was based on the evaluation of habitat suitability for target species during field surveys but not protocol-level surveys. At the time of the surveys, there was no access to the TCE areas that were beyond the ROW; however, biologists conducted visual surveys of the areas from the edge of the ROW to evaluate the potential for habitat and sensitive resources.

Various studies were conducted in the preparation of this NES, including:

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

a) Less than Significant Impact

Surveys for the following special-status plant and animal species and their respective habitats were conducted by Caltrans biologists during species appropriate seasons in 2020. Special-status species with a potential to occur within or adjacent to the BSA are discussed below and included in tabular format in Appendix E.

With implementation of Project Features and AMMs identified below, the Project would have a less than significant impact, either directly or through habitat modifications, on any identified candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS).

SPECIAL-STATUS PLANT SPECIES

A vegetation characterization and rare plant habitat assessment survey was conducted in September 2019. Vegetation characterization was based on data from the Sonoma County Vegetation Mapping and LIDAR Program (Sonoma Veg Map) (2014) followed by field verification of vegetation types present at each culvert location. The boundaries of vegetation types were adjusted in some locations to more accurately map the existing vegetation. No special-status plants were observed within the BSA during the 2019 rare plant habitat assessment. Protocol-level botanical surveys were completed within the BSA from March 5 to June 9, 2020 for special-status plant species such as coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*), swamp harebell (*Campanula californica*), supple daisy (*Erigeron supplex*), short-leaved evax (*Hesperevax sparsiflora var. brevifolia*), coast lily (*Lilium maritimum*), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), and fringed false-hellebore (*Veratrum fimbriatum*).

Avoidance and Minimization Measures for Rare Plants

AMM BIO-1: Pre-construction Surveys for Rare Plants. A qualified biologist shall conduct a survey during the appropriate blooming period for all special-status plants that have the potential to occur on the Project site the season prior to the start of construction. Surveys should be conducted following Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities, prepared by CDFW, dated March 20, 2018. If a special-status plant is detected, the Project limits boundary would be adjusted to avoid impacting the species (AMM BIO-2).

A qualified biologist in this context should be knowledgeable about plant taxonomy, familiar with plants of the region, and have experience conducting botanical field surveys according to vetted protocols.

If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) would be warranted (pursuant to Fish and Game Code Section 2080 et seq.).

AMM BIO-2: Avoid or Minimize Disturbance to Rare Plants. If special-status plants are identified during the surveys, the following actions may be undertaken:

1. **Avoid Rare Plants**. The Project footprint may be adjusted, if practicable, to completely or partially avoid impacting special-status plants species.

2. **Minimize Disturbance to Rare Plants.** If complete or partial avoidance is not practicable, implementation of the following actions may be required: 1) collection of special-status plant seed, bulbs, other propagules, or topsoil prior to construction for use in future onsite restoration or enhancement actions; 2) restoration or enhancement of suitable special-status plant habitat onsite; or 3) restoration or enhancement of suitable special-status plant habitat offsite.

SPECIAL-STATUS WILDLIFE SPECIES

California Red-legged Frog (Rana draytonii)

Suitable breeding habitat for the California red-legged frog (CRLF) was not identified within the BSA, however, potentially suitable dispersal and foraging habitat for CRLF was determined to be present, consisting of non-breeding aquatic habitat (wetlands and waters), riparian habitat and upland habitat. Impacts to CRLF and its habitat may result from rehabilitation of the culverts and construction of RSP, headwalls, inlets, and graded ditches. Approximately 0.064 acre of potential CRLF aquatic non-breeding habitat would be impacted during construction (permanent 0.001 acre, and temporary 0.063 acre). Approximately 1.818 acres of upland habitat would be impacted during vegetation clearing, culvert rehabilitation, and building the RSP, headwalls, inlets, and graded ditches (permanent 0.008 acre, and temporary 1.81 acres).

By implementing Caltrans Project Features (Appendix B) and the CRLF-specific AMMs listed below, adverse direct and indirect impacts to CRLF would be minimized. The Project will have minimal permanent impacts and temporary impacts to CRLF habitat and could result in loss of small numbers of CRLF, if CRLF are present during construction. By implementing appropriate measures, impacts to CRLF habitat and individuals would be minimized to a level that is considered less than significant.

Avoidance and Minimization Measures for California Red-legged Frog

AMM BIO-3: Proper Use of Erosion Control Devices. Plastic monofilament netting (i.e., erosion control matting), rock slope protection filter fabric, geotextile or

similar material will not be used. Acceptable substitutes would include coconut coir matting or tackifying hydroseeding compounds.

AMM BIO-4: Biological Monitoring. A biological monitor will be present during construction activities where potential impacts to a listed species could occur. Through communication with the Resident Engineer or his/her designee, the biological monitor may stop work if deemed necessary for any reason to protect listed species and will coordinate with the Resident Engineer or designee on how to proceed accordingly.

AMM BIO-5: Surveys for California Red-legged Frog. The biological monitor will conduct a preconstruction CRLF survey, in addition to daily inspections, if necessary, before the start of work. Visual surveys will be conducted immediately before ground-disturbing activities. Suitable non-breeding aquatic and upland habitat within the Project footprint, including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, etc., will be inspected. If a CRLF is observed, the individual will be evaluated and relocated in accordance with the observation and handling protocol outlined below. Fossorial mammal burrows will be inspected for signs of frog usage, to the extent practicable. If it is determined that a burrow may be occupied by a CRLF, USFWS will be contacted and work in the vicinity of the burrow stopped. At the end of a work day, any open ground work deeper than 12 inches, that cannot be completed, must be covered.

AMM BIO-6: Protocol for California Red-legged Frog Observation. If CRLF are encountered in the Project footprint, work within 50 feet of the animal will cease immediately and the Resident Engineer and biological monitor will be notified. Based on the professional judgment of the biological monitor, if Project activities can be conducted without harming or injuring the animal(s), they may be left at the location of discovery and monitored by the biological monitor. Project personnel will be notified of the finding, and at no time will work occur within 50 feet of the animal without a biological monitor present.

Foothill yellow-legged frog (Rana boylii)

The foothill yellow-legged frog (FYLF) is a state candidate species for listing as threatened under CESA that is found in a variety of habitat types. Within the BSA marginal habitat exists for FYLF; however, during construction there is potential for individuals to disperse into the work sites from more suitable nearby areas. It is therefore recommended that measures be implemented during Project activities to reduce the potential to affect the species. AMMs proposed for CRLF will also

minimize potential impacts to the FYLF. The Project is not anticipated to have significant impacts on FYLF.

Northern Spotted Owl (Strix occidentalis caurina)

The northern spotted owl (NSO) is federally and state-listed as threatened. Multiple culvert work area locations are located in or within 0.25 mile of potentially suitable NSO habitat. The removal of the vegetation would result in the temporary (0.251 acre) and permanent (0.002 acre) loss of NSO habitat within forested areas (*Pinus muricata* or *Sequoia sempervirens* alliances). This acreage encompasses work areas for the graded ditches, RSP, and culvert rehabilitation work and would constitute a minor loss of potential habitat for NSO. Due to an assumed high level of baseline disturbance along SR 1, construction activities may not increase the level of disturbance enough to adversely affect nesting NSO. In addition, depending on the landscape, the topography could provide a significant visual, noise, and disturbance barrier between construction and nesting NSO. However, if potentially suitable nesting habitat within 0.25 mile from construction activities, is being used for nesting, then construction could affect nesting NSO. Project Features and species-specific AMMs will be implemented to avoid and minimize adverse impacts on this species. For these reasons, potential impacts to NSO would be less than significant.

Avoidance and Minimization Measures for the Northern Spotted Owl

AMM BIO-7: Occupied Northern Spotted Owl Habitat. If Project activities will occur during the NSO nesting season (February 1-July 31st), then a qualified biologist shall conduct surveys for NSO following the USFWS Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls, dated (Revised) January 9, 2012. Surveys shall be conducted in accordance with section 9 of the survey protocol, Surveys for Disturbance-Only Projects. A qualified biologist should be familiar with NSO ecology, have proven success identifying NSO aurally and visually, and have at least two seasons of experience surveying for NSO using the USFWS protocol.

If NSO surveys determine that the work area is occupied, Caltrans will adhere to the following measures:

1. **Vegetation Removal or Alteration:**

    a. No suitable NSO nest trees will be removed during the nesting season (February 1-July 31st).

b. Suitable habitat may be removed or altered outside the nesting season provided "no take" guidelines are adhered to for all known NSO home ranges within 1.3 miles of the work areas in interior forests or within 0.7 mile of the work areas in coastal [redwood] forests (USFWS 2014).

2. **Auditory or Visual Disturbance:**

a. If Project-generated sound will not exceed ambient nest conditions by over 20 decibels and total combined sound (ambient and Project-generated) during Project activities does not exceed 90 decibels, then noise impacts would likely be less than significant, and NSO surveys may not be necessary (USFWS 2006). Pre-project sound conditions should be accurately measured and documented to justify a no-survey outcome and the method of sound monitoring to determine if levels exceed 90 decibels should be adequately described to allow CDFW to comment on the methods. Above-ambient sound level restrictions will be lifted after July 31.

b. No human activities will occur within a visual line of sight of 131 feet or less from any known nest locations within the action area (USFWS 2014).

3. **California Endangered Species Act (CESA)**

a. If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) would be warranted (pursuant to Fish and Game Code Section 2080 et seq.).

AMM BIO-8: Unoccupied Northern Spotted Owl Habitat. If NSO surveys (using the USFWS's 2012 survey protocol) determine that all suitable NSO habitat within 0.7 mile of the work areas in coastal [redwood] forests or within 1.3 miles of the work areas in interior forests is unoccupied, suitable habitat may be removed or altered without seasonal restrictions, provided "no take" guidelines are adhered to. The USFWS considers previously occupied habitat as essentially "occupied" in perpetuity. Therefore, adequate (based on the "no take" guidelines mentioned previously) suitable nesting\roosting and foraging habitat must be maintained within all historical NSO territories within the action area.

Marbled Murrelet (Brachyramphus marmoratus)

The marbled murrelet (MAMU) is federally listed as a threatened species and is currently listed as endangered in California. Culvert work locations (PMs 41.22, 41.52, 41.56, 41.65, 42.11, 42.36, 42.41, 43.37, and 43.44) fall within the MAMU Critical Habitat Unit designated by USFWS and include the bishop pine forests of Salt Point State Park. However, MAMU were not observed in this area during site reconnaissance visits.

The removal of the vegetation within approximately 0.251 acre (temporary) and 0.002 acre (permanent) of forest habitat (*Pinus muricata* and *Sequoia sempervirens* alliances) within and out of the Critical Habitat Unit for the graded ditches, RSP, and culvert rehabilitation work would constitute a minor loss of potential habitat for MAMU. Because vegetation removal would occur along or adjacent to roadway embankment that is subject to regular disturbance from SR 1, the loss of this potential habitat is not likely to significantly affect the local population, if MAMU are present.

Due to an assumed high level of baseline disturbance along SR 1, construction activities may not increase the level of disturbance enough to affect nesting MAMU. In addition, depending on the landscape, the topography could provide a significant visual, noise, and disturbance barrier between construction and nesting MAMU. If potentially suitable nesting habitat is adjacent to construction activities, and the habitat is being used for nesting, then construction could adversely affect nesting MAMU.

Caltrans may remove up to 15 trees located within the work areas 1 to 6 (PMs 41.22, 41.52, 41.56, 41.65, 42.11, 42.36) and 9 to 10 (PMs 43.37, and 43.44) for the culverts within MAMU critical habitat. Caltrans biologists will work with construction personnel prior to construction to minimize impacts to trees at these locations.

Project Features and species-specific AMMs will be implemented to avoid and minimize adverse impacts on this species. For these reasons, Caltrans anticipates that the Project will not significantly affect MAMU.

Avoidance and Minimization Measures for the Marbled Murrelet

AMM BIO-9: Occupied Marbled Murrelet Habitat. If MAMU surveys (using the USFWS's 2003 survey protocol; USFWS 2014) determine that the work area is occupied, or Caltrans presumes MAMU occupancy without conducting surveys, Caltrans will adhere to the following avoidance and minimization measures:

1. **Vegetation Removal or Alteration:**

    a. No potential MAMU nest trees will be removed during the nesting season (February 1 to September 30).

    b. Potential Suitable habitat may be removed or altered outside the nesting season (October 1 to January 31).

    c. Caltrans must ensure that there are no "adverse effects" to designated MAMU critical habitat within the Project footprint. Caltrans must contact the USFWS to determine whether proposed habitat removal within designated critical habitat would constitute an adverse effect.

2. **Auditory or Visual Disturbance:**

    a. No proposed activity generating sound levels 20 or more dB above ambient sound levels or with maximum sound levels (ambient sound level plus activity-generated sound level) above 90 dB (excluding vehicle back-up alarms) may occur within suitable MAMU nesting habitat during the majority of the MAMU nesting season (i.e., March 24 to August 5; USFWS 2014).

    b. No human activities will occur within visual line of- ight of 131 feet or less from a nest (USFWS 2014).

3. **California Endangered Species Act (CESA)**

    a. If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) is warranted (pursuant to Fish and Game Code Section 2080 et seq.).

AMM BIO-10: Unoccupied Marbled Murrelet Habitat.

a. If protocol surveys determine that all suitable MAMU nesting habitat within the Project footprint is considered unoccupied, suitable nesting habitat may be removed or altered without seasonal restrictions.

b. Caltrans will ensure that there are no "adverse effects" to designated MAMU critical habitat within the Project footprint. Caltrans will contact the USFWS to determine whether the proposed habitat removal would constitute an

adverse effect to designated critical habitat. However, the removal of a few small trees and shrubs would be exempt from this requirement.

Myrtle's Silverspot Butterfly (Speyeria zerene myrtleae) and Behren's Sivlerspot Butterfly (Speyeria zerene behrensii)

The Myrtle's silverspot butterfly (MSB) and Behren's Silverspot Butterfly (BSB) are listed as endangered species under the Federal Endangered Species Act. Suitable habitat for *Viola adunca*, the larval host plant for MSB and BSB, occurs within the BSA, including mesic grasslands and evergreen forest types.

The Project footprint may also contain foraging habitat for adult butterflies. If *Viola adunca* is present within or near the Project footprint, culvert rehabilitation work could impact MSB and BSB.

By implementing the MSB-specific AMMs listed below, adverse direct and indirect impacts to MSB and BSB would be reduced to a level that is less than significant.

Avoidance and Minimization Measures for Myrtle's Silverspot Butterfly and Behren's Sivlerspot Butterfly

AMM BIO-11: Pre-construction Survey for *Viola adunca*. Additional pre-construction survey for *Viola adunca* will be conducted in the early spring (late February/early March), during the season prior to construction, referencing phenology trends observed at Fort Ross or other nearby reference populations. If *Viola adunca* are found in the work area, they will be flagged for avoidance. Negative findings for *Viola adunca* within the Project area will indicate that the footprint does not contain suitable breeding habitat for MSB and BSB.

AMM BIO-12: Minimize Impacts to *Viola adunca,* MSB and BSB. If *Viola adunca* plants are found they will be flagged and fenced for avoidance during construction. Upon identification of *Viola adunca*, surveys shall also be conducted for the foraging species MSB and BSB. If host plants are considered potentially occupied by MSB or BSB then work will occur during the larval period and outside the flight season. In addition to work occurring during the larval period, the biological monitor will establish appropriate measures for MSB and BSB as necessary to protect the species.

If larval host plants cannot be avoided, then work will occur during the flight season, with a biological monitor present to survey for adult MSB and BSB. If MSB or BSB are observed in the work area, the biological monitor, through communication with

the Resident Engineer or his/her designee, may stop work if deemed necessary for any reason to protect MSB, and BSB and will advise the Resident Engineer or designee on how to proceed accordingly.

Sonoma Tree Vole (Arborimus pomo)

The Sonoma tree vole (STV), a California species of special concern, is considered at moderate risk and a vulnerable species. Culvert work locations that consist of the *Pinus muricata* alliance and *Sequoia sempervirens* alliance may provide suitable habitat for the STV. The permanent removal of vegetation within approximately 0.002 acre of forest habitat (*Pinus muricata* and *Sequoia sempervirens* alliances) for the graded ditches, RSP, and culvert rehabilitation work would constitute a minor loss of potential habitat for STV. Ground-disturbing activities and tree removal could destroy STV nests or injure or kill STVs inhabiting nests, if they occur within the Project work areas. Sonoma tree voles are nocturnal and might reside within nests during daytime construction activities. The Project also could disturb or displace STVs from nearby nests if they occur in proximity to construction activities. By implementing the STV-specific AMM listed below, adverse direct and indirect impacts to STV would be reduced to a level that is less than significant.

Avoidance and Minimization Measures for the Sonoma Tree Vole

AMM BIO-13: Preconstruction Surveys for Sonoma Tree Vole. Before the start of construction, a qualified biologist will conduct a survey of the Project work areas and a 30-foot buffer beyond the Project footprint boundaries to determine the location of active and inactive STV nests. Any nests detected during the surveys will be recorded and mapped in relation to the construction disturbance footprint. In addition, the biologist will evaluate any signs of current activity. The biological monitor will work with the Caltrans Resident Engineer to avoid impacting the species to the maximum extent practicable.

California Giant Salamander (Dicamptodon ensatus)

The California giant salamander (CGS) is listed as a California species of special concern. Wetland, waters and forested areas within the BSA may provide suitable habitat for the CGS. Impacts to CGS and their habitat may result from rehabilitation of the culverts, construction of RSP, headwalls, inlets, and graded ditches. By implementing Project Features (Appendix B) and the CRLF-specific AMMs presented, Caltrans anticipates that potential adverse direct and indirect impacts to CGS would be reduced to a level that is less than significant.

b) Less than Significant Impact

The Project would temporarily impact 0.202 acre and permanently impact 0.001 acre of riparian habitat (Vancouverian riparian deciduous forest, Vancouverian coastal riparian scrub group, and Southwestern North American riparian wash scrub). The Project would temporarily impact 1.577 acres of upland habitat (*Baccharis pilularis* alliance, native and non-native perennial coastal grassland, *Pinus muricata* alliance, *Eucalyptus globulus* semi-natural alliance, non-native shrubs, *Sequoia sempervirens* alliance, *Hesperocyparis macrocarpa* semi-natural alliance), and permanently impact 0.008 acre of upland habitat (native and non-native perennial coastal grassland, *Pinus muricata* alliance, and *Hesperocyparis macrocarpa* semi-natural alliance). Impacts to riparian habitat and sensitive natural communities would result from clearing for the access for the culvert rehabilitation, RSP areas, headwalls, inlets, and graded ditches. By implementing the following revegetation measures, impacts to riparian habitat and sensitive natural communities would be less than significant. The following Project Feature and AMMs have been proposed:

Project Feature

Project Feature BIO-1: Replant, Reseed, and Restore Disturbed Areas. Disturbed areas from construction will be contoured to conform to the surrounding landscape and restored using a combination of compost application and native plantings and hydroseeded mix. Invasive, non-native plants, duff, and excavated material containing invasive plant material will be cleared from the Project footprint. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion.

Avoidance and Minimization Measures for Trees

AMM BIO-14: Tree Planting. If necessary, re-planting of trees shall be accommodated within the Project limits after construction is complete. Trees with a diameter at breast height greater than two inches that are removed will be replaced at the following ratios: 3:1 for native trees and 1:1 for non-native trees. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted post-construction, based on the local species composition. PEP periods for trees within jurisdictional areas will be determined during the design phase when permits are obtained.

c) Less than Significant Impact

An aquatic resources delineation was conducted for the BSA. The BSA contained 0.080 acre of potential USACE wetlands, 0.051 acre (686 linear feet) of potential non-wetland waters of the U.S., 859 linear feet of culverted waters of the U.S., and an additional 0.094 acre of potential CCC-only wetlands.

Temporary, direct impacts to both wetlands and waters are anticipated to occur. A total of 0.351 acre of waters of the U.S. will be temporarily impacted (0.288 acre of wetlands and 0.063 acre of non-wetland waters of the U.S.). A total of 0.003 acre of waters of the U.S. will be permanently impacted (wetlands: 0.002 acre and other waters: 0.001 acre); however, it is not anticipated that this permanent impact will result in the conversion of aquatic resources to upland.

Grading, clearing, and grubbing of upland areas could result in indirect temporary impacts to waters of the U.S. from increased erosion and sedimentation. These indirect impacts would be minimized through implementation of the Project Features including standard Caltrans BMPs, such as the use of silt fences or fiber rolls. In addition, planting wetland and riparian species following ground-disturbing activities would reduce potential erosion and sedimentation from the upland areas post-construction.

Temporarily disturbed non-wetland waters will be restored to pre-construction contours to minimize impacts to habitat functions. Temporarily disturbed wetland areas will be revegetated with an appropriate mix of native species.

Specific compensation for permanent impacts will be determined through consultation with agencies during the permitting process (Table 3-1 in the Land Use and Planning section). Impacts to wetlands would be less than significant.

d) No Impact

There were no CNDDB records for any special-status fish species in any of the systems that the culverts flow through, no critical habitat within the Project footprint, and none of these culverts are identified in the California Fish Passage Assessment Database. The culverts do not represent a barrier to fish passage and the Project would not affect fish passage at any of the culverts. The Project would not construct any new barriers to the movement of wildlife species 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) No Impact

This Project would not conflict with any local policies or ordinances protecting biological resources; therefore, there would be no impact.

f) No Impact

This 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. There would be no impact.

Cultural Resources

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

Caltrans prepared a memorandum on cultural compliance for the Project titled *Office of Cultural Resource Studies (OCRS) Section 106 Closeout Memo for the Drainage System Restoration Project at Postmile 41.2/54.6 on State Route 1 in Sonoma County* (Caltrans 2019c).

A Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), Extended Phase I (XPI) and Environmentally Sensitive Area (ESA) Action Plan were prepared for the Project. The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer*, *the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Programmatic Agreement) and the January 2015 Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance With Public Resources Code Section 5024 and Governor's Executive Order W-26-92.

As described in the Section 106 Closeout Memo, the Area of Potential Effects (APE) for this Project was established by the Professionally Qualified Staff, architectural historian and archaeologist. The APE includes the study areas for cultural resources defined by several discontinuous segments, each delineating the footprint of proposed work at each culvert location. The Caltrans Office of Cultural Resources Studies

(OCRS) review consisted of a detailed search of records, maps, as-built plans, aerial photographs and digital files found in Caltrans' Cultural Resources Database, a field investigation conducted on November 29-30, 2018, and consultation with local tribes and State Parks. The background research and field investigation identified historic properties/historical resources within the APE. The HPSR and ASR contain confidential information, which could not be publicly shared. Based on these reports, Caltrans made a finding of no adverse effect with standard conditions.

Caltrans consulted with the Native American Heritage Commission and local Native American tribes, consistent with Assembly Bill 52, in September and October of 2018, with follow-up calls conducted on November 6, 2018. The Kashia Band of Pomo Indians of Stewarts Point (Kashia) responded that the Project area falls within their aboriginal territory and they would like to continue consultation. Lytton Rancheria responded that the tribe would like to continue consultation to ensure that potential archaeological sites present within the APE are avoided or protected. Caltrans OCRS Staff met with a representative from the Lytton Band of Pomo Indians to review Project details at which time the tribe deferred any further monitoring needs to the Kashia. The Federated Indians of Graton Rancheria responded that the Project is not within their tribal territory. No other responses were received.

Caltrans OCRS staff consulted with the Kashia on May 1, 2019, and determined that ESAs would be appropriate to protect archaeological resources identified within the APE. Lytton Rancheria was informed of the results on May 17, 2019. These cultural resources are assumed eligible for the National Register of Historic Places for the purposes of the Project because they will be protected in their entirety through the ESA Action Plan. Caltrans also coordinated with archeology staff from CDPR on January 16, 2019, for several locations within an Archaeological District of Salt Point State Park. State Parks responded that if the proposed work would not take place within the boundaries of an individual archaeological site, they had no concerns with the Project.

a, b and c) <u>Less than Significant Impact</u>

Caltrans has determined that a Finding of No Adverse Effect with Standard Conditions is appropriate for the Project. The above-referenced documentation will be archived in the Caltrans OCRS files and the Northwest Information Center of the California Historical Resources Information System. Compliance with Section 106

via the Programmatic Agreement and California Public Resources Code (PRC) Section 5024 is complete. The following Project Features will help ensure there are no impact to cultural resources.

Avoidance and Minimization Measures

AMM CULT-1: Implement ESA Action Plans. The ESA Action Plans identified impacted archaeological sites within the APE and includes specific protective measures which shall be implemented during construction.

Project Features

Project Feature CULT-1: Stop Work Upon Discovery of Cultural Materials. If cultural materials are discovered during construction, all earth-moving activity within a 60-foot radius will be halted until a Caltrans PQS can assess the nature and significance of the find.

Project Feature CULT-2: Discovery of Tribal Cultural Resources. If any tribal cultural resources are found, these resources will be delineated on the ground with temporary fencing. No construction-related activities or staging would be permitted within these areas.

Project Feature CULT-3: Additional Actions if Cultural Materials Contain Human Remains. If Caltrans PQS determines that cultural materials contain human remains, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. Caltrans' OCRS will contact the Sonoma County Coroner. Pursuant to PRC Section 5097.98, if the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendent. The Caltrans OCRS will work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Energy

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation of the CEQA Guidelines, require an analysis of a Project's energy use to determine if the Project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

a) Less than Significant Impact

The Project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy. During construction, standard Caltrans BMPs such as regular vehicle and equipment maintenance, and limiting idling of vehicles and equipment onsite, would be implemented for energy efficiency. The impact would be less than significant.

b) No Impact

The Project would not conflict with a state or local plan for renewable energy or energy efficiency. There would be no impact.

Geology and Soils

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
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?				X
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?				X
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?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

Caltrans investigated impacts to geology and soils from the Project and prepared the *Environmental Study for Drainage System Restoration Project Technical Memorandum* (Caltrans 2019d). This section summarizes the findings of this review.

The Project site is located entirely on disturbed ground (artificial fill) including the highway and shoulders.

a-f) No Impact

The Project would not expose the public to hazards related to the rupture of a known earthquake fault, strong ground shaking, including liquefaction, soil subsidence, expansive soils or seismically induced landslides. There are no septic tanks or alternative waste water delivery systems proposed in the scope of the Project or within the Project area. The Project will not impact geologic or soil conditions. There are no sensitive geologic, or paleontological resources.

Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

Caltrans investigated potential impacts to greenhouse gas (GHG) emissions from the proposed Project and prepared the *Construction Greenhouse Gas Analysis* memorandum (Caltrans 2018e). This section summarizes the findings of this review.

Construction-generated GHG includes emissions resulting from material processing, onsite construction equipment, workers commuting to and from the Project site, and traffic delays from construction. The emissions would be produced at different levels throughout the Project depending on the activities involved at various phases of construction.

The analysis was focused on vehicle-emitted GHGs. Carbon dioxide (CO_2) is the single most important GHG pollutant due to its abundance when compared with other vehicle-emitted GHGs, including methane, nitrous oxide, hydrofluorocarbon, and black carbon. Their frequency and occurrence can be reduced through innovations in Standard Caltrans BMPs such as implementing better traffic management during construction phases. In addition, with innovations such as changes in materials and longer pavement life, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Based on Project information available, the construction-related GHG emissions were calculated using the Road Construction Emissions Model (RCEM), version 8.1.0, provided by the Sacramento Metropolitan Air Quality Management District. The estimated total amount of CO_2 produced during a 7-month construction timeframe is 301.02 tons. Because construction activities are short-term, the GHG emissions would not result in long-term adverse effects. Frequency and occurrence of GHG emissions will be reduced through Project Feature GHG-1 below.

Project Feature

Project Feature GHG-1: Control Measures for Greenhouse Gases. Measures will be determined during the design phase and implemented during construction to 1) ensure regular construction maintenance of vehicle and equipment; 2) limit idling of vehicles and equipment onsite; 3) recycle nonhazardous waste and excess material if practicable; and 4) use solar-powered signal boards, where feasible.

Hazards and Hazardous Materials

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

a, b) Less than Significant Impact

According to the *Hazardous Waste Memorandum* prepared for the Project (Caltrans 2019h), the study area is rural and largely undeveloped with historically low traffic volumes. It is highly anticipated that the roadside soils to be excavated contain background levels of lead well below the regulated level established by the

Department of Toxic Substances Control. Testing of the soils to be excavated would not be necessary if the excavated soils can be reused at the Project locations. However, if the volume of the excavated soil becomes significantly large and requires offsite disposal, soil testing might be necessary to demonstrate to the receiving property owner that the excavated material is clean. Contractors are required to comply with Caltrans Standard Specifications section 7-1.02K(6)(j)(ii), "Lead Compliance Plan," to prevent or minimize worker exposure to lead.

In all roadway construction Projects, there is a potential for the accidental release of fuels, lubricants, or solvents that are typically used, handled, and stored by contractors. Caltrans Standard Specifications section 13-4, "Job Site Management," would be implemented to prevent and control spills or leaks from construction equipment and from storage of fuels, lubricants, and solvents. All aspects of the Project associated with removal, storage, transportation, and disposal of hazardous material would be done in accordance with the appropriate California Health and Safety Code. Handling and management of hazardous materials would comply with Caltrans Standard Specification section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste. The impact would be less than significant.

c) No Impact

There are no existing or proposed schools within a quarter mile of culvert work areas. There would be no impact.

d) No Impact

Based on a review of the State Water Resources Control Board (SWRCB) GeoTracker database, there is a cleanup site located adjacent to PM 43.32. A tanker truck rollover occurred on November 20, 2012, spilling approximately 820 gallons of motor oil and 230 gallons of ethylene glycol. The current cleanup status is open, but inactive as of June 14, 2017. Proposed culvert work would avoid this area. In addition, compliance with Caltrans Standard Specifications 14-11, Hazardous Waste and Contamination would be required. There would be no impact.

e) No Impact

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

f) Less than Significant Impact

Potential delays to traffic along SR 1 would result from flagger-controlled one-way traffic in effect during culvert replacement activities. A Traffic Management Plan (TMP) (AMM TRANS-1 in the Transportation and Traffic section) will be developed during the design phase that would identify traffic delays and alternative routes. Emergency response times are not anticipated to change during construction because the TMP would provide priority to emergency vehicles during one-way traffic control. The TMP would provide instructions for response or evacuation in the event of an emergency. In addition, this Project would not conflict with any other emergency response or evacuation plan. The impact would be less than significant.

g) Less than Significant Impact

Existing culverts along the Project corridor are located in designated moderate to very high fire hazard severity zones (CAL FIRE 2007). The Project does not have permanent features that would expose people or structures to risk of loss, injury, or death involving wildland fires. AMM TRANS-1 would reduce fire risk to local residents and the traveling public during construction to less than significant.

Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?				X
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;			X	
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
(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			X	
(iv) impede or redirect flood flows?				X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				X

Caltrans investigated impacts to hydrology and water quality from the proposed Project and prepared a *Water Quality Study* (Caltrans 2020g). This section summarizes the findings of that review.

The Project location and scope are not subject to tidal influence of current or future sea-level rise as provided in the *State of California Sea-Level Rise Guidance, 2018*

Update (California Ocean Protection Council, 2018). Therefore, discussion of sea-level rise is not included in this document.

The Project is located within the jurisdiction of the North Coast Regional Water Quality Control Board (Region 1), which is responsible for implementation and enforcement of state laws and regulations concerning water quality.

The Project is located within the Mendocino Coast Hydrologic Unit, Gualala River Hydrologic Area, and Gualala Hydrologic Sub-Area 113.85 as well as the Salmon Creek-Frontal Pacific Ocean Watershed and Russian Gulch-Frontal Pacific Ocean Subwatershed.

The receiving waterbody in the Project area is the Mendocino Coast Hydrologic Unit, which is classified as a High Risk Receiving Watershed area.

a) Less than Significant Impact

The Project would result in an anticipated 2.64 acres of disturbed soil area (DSA), from trenching for culvert replacement. Potential temporary water quality impacts may result from staging and active construction areas, that result in the release of fluids, construction debris, sediment and litter beyond the Project footprint. Potential construction impacts to receiving waterbodies include turbidity and pH, which could result from the discharge of sediment and cement beyond the Project footprint. Implementation of construction BMPs (Project Features WQ-1 and WQ-2) would address temporary water quality impacts from the construction activities of the Project. Therefore, the proposed Project would not substantially degrade surface or groundwater quality. In addition, the Project would not violate water quality standards or waste discharge requirements. Impacts would be less than significant.

b) No Impact

The Project would have no effect to groundwater supplies or groundwater recharge areas in the Project vicinity. There would be no impact.

c(i)) Less than Significant Impact

The Project would not substantially alter the existing drainage pattern of the site. With Project Features WQ-1 and WQ-2, the Project would not result in substantial erosion or siltation.

c(ii), (iii)) Less than Significant Impact

The Project would add 0.81 acre of new impervious surface area; therefore, the Project is required to consider permanent BMPs, including stormwater treatment and Design Pollution Prevention (DPP) strategies. With the inclusion of Project Feature WQ-3 the Project would minimize pollution discharges (e.g., reduce erosion, and manage non-stormwater discharges) and improve the quality of stormwater after construction is complete. The Project would not 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. Surface runoff impacts due to the construction of the Project would be less than significant.

c(iv)) No Impact

The Project would not impede or redirect flood flows. There would be no impact.

d) No Impact

According to the *Hydraulics Study* (Caltrans 2019f) prepared for this Project, the Project corridor is not within the 100-year floodplain as defined by the Federal Emergency Management Agency Flood Hazard Mapping. The Project is not in flood hazard, seiche, or tsunami zones. There would be no impact.

e) No Impact

With the implementation of Project Features WQ-1 to WQ-3, the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Project Features

Project Feature WQ-1: Construction Site BMPs. To prevent or reduce water quality impacts to the Project corridor, BMPs will be deployed for sediment control, pH, and material management. BMPs will include measures for soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and drainage inlet protection. These BMPs will include measures such as, but not limited to, temporary concrete washouts, street sweeping, fiber rolls, silt fences, hydraulic mulch, and construction entrances.

Project Feature WQ-2: Temporary Stream Diversions. Temporary stream diversions will be used when necessary for culvert replacements. If needed, stream diversion will be determined during the design phase of the Project.

Project Feature WQ-3: Permanent BMPs. To minimize and avoid potential post-construction impacts to water quality, the Project will consider DPP and Treatment BMPs. DPP BMPs will be used to minimize runoff, maximize infiltration, maximize vegetation (depending on the location) and reduce erosion. Treatment BMPs will improve the quality of stormwater post-construction will include Caltrans approved measures such as biofiltration and bioretention systems.

Land Use and Planning

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
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?			X	

A *Community Impact Assessment* (CIA) was prepared for the Project (Caltrans 2019j). Based on the analysis, the Project area includes public land, agricultural lands and low-density residential communities. Two small towns are located within the Project area: Stewarts Point, an unincorporated community, non-census-designated place, situated near PM 48.1; and the unincorporated community of Sea Ranch, beginning at PM 49.6, and extending beyond the northern limits of the Project. The region's economy consists primarily of tourism, commercial fishing, timber production, and sheep ranching. In this area, SR 1 is the only north-south thoroughfare, providing easy access to the shoreline directly west of the highway (Sonoma County 2001).

Sonoma County is divided into 9 sub-county planning areas. The proposed Project is located within Sonoma County's Planning Area 1 – Sonoma Coast/Gualala Basin.

a) No Impact

The Project consists of culvert replacement and associated drainage structures at 27 specific locations along a 13-mile stretch of SR 1. Due to the limited scope of work, the proposed Project would not divide any existing established communities within, or in association to the Project's actions. There would be no impact.

b) Less than Significant Impact

Plans, policies and regulations adopted to avoid or mitigate effects to environmental resources include the Sonoma County General Plan, the Coastal Zone Management Act (CZMA), the California Coastal Act (CCA), the Sonoma County Local Coastal Plan (LCP), and Sonoma County State Route 1 Repair Guidelines.

Sonoma County General Plan 2020

The Sonoma County General Plan was originally adopted in 1989 to develop decision-making policies in Sonoma County, in a manner consistent with the goals and quality of life desired by the County's residents. Since 1989, the General Plan has been updated to the Sonoma County General Plan 2020, which includes revised planning elements including future growth, development, and conservation of resources (Sonoma County 2016).

The Project would be consistent with the overall goals and policy framework for the different categories established within the Sonoma County General Plan and includes Project Features as necessary to protect resources established as valuable by the General Plan. It is anticipated that the Project would have temporary impacts to agricultural land but would incorporate appropriate measures to comply with the below goal from the Land Use section of the Sonoma County General Plan (FAR-1 in Agriculture and Forest Resources section):

- Goal LU-9: Protect lands currently in agricultural production and lands with soils and other characteristics that make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.

The Project also supports the following policies, and goals from the Open Space Resource Conservation, and Circulation and Transit Sections of the General Plan:

- Policy OSRC-3i: "..Consider requesting official State Scenic Highway designations for Highways 1 and 37."

- Goal CT-4: Provide and maintain a highway system capacity that serves projected highway travel demand at acceptable levels of service in keeping with the character of rural and urban communities.

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

Coastal Zone Management Act

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

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

The CCA delegates power to local governments to enact their own local coastal plans (LCPs); in this case, the Sonoma County LCP (Sonoma County 2001). The State-certified LCP is a portion of the Sonoma County General Plan and includes visual resources policies and recommendations under the "Development" section of the CCA. The Sonoma County LCP determines the short- and long-term use of coastal resources in their jurisdiction consistent with the CCA goals.

Under the Sonoma County LCP, the coast is divided by the Russian River into north and south coast sections. The proposed Project resides within the Sonoma County North Coast Planning Area. The Project area is then located in the "Salt Point" and "Timber Cove/Fort Ross" sub-areas of the Sonoma County LCP (Sonoma County 2001).

The Project is entirely within the permitting jurisdiction of Sonoma County, and would require a local coastal permit for construction. However, development permits issued in accordance with the Sonoma County LCP could be appealable to the CCC.

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

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

Key provisions of the CCA and the Sonoma County LCP are provided below along with an evaluation of permitting activities of the Project (Tables 3-1 and 3-2).

Table 3-1 Key Provisions of the California Coastal Act

Policy Number	Subject of Policy	Coastal Zone Assessment
Section 30210	Maximum public access and recreational opportunities shall be provided.	The Project would preserve coastal public access by maintaining the safety and reliability of SR 1.
Section 30211	Development shall not interfere with public access to the sea.	The Project would maintain roadway safety and reliability and continue to provide public access to the ocean.
Section 30212	New development Projects shall provide for public access to the shoreline and along the coast.	The Project would not be considered new development.
Section 30252	Public Access	The Project would maintain roadway reliability and public access to the ocean. The CCT would not be affected by the Project.
Section 30221	Recreation: Protect suitable oceanfront land for recreational use.	The Project would not impact public access to recreation facilities or oceanfront land suitable for recreational use.
Section 30231	Biological activity; water quality	Biological resources would potentially be temporarily affected by construction of the Project; however, all impacts would be minimized, and the affected areas would be restored to pre-existing conditions. Project Features and AMMs are incorporated to minimize environmental effects to biological resources, wetlands and water quality.
Section 30233	Diking, filling, dredging of wetlands	The Project has been designed to avoid wetland impacts as much as possible. Attempts to minimize impacts to wetlands will be made through AMMs of in-water work and construction site BMPs. Temporarily disturbed wetland areas will be revegetated with an appropriate mix of native species.
Section 30235	Construction altering natural shoreline	The Project would not alter the natural shoreline of the Pacific Ocean. By replacing culverts and right-sizing pipes that convey water from creeks and natural runoff, the Project would reduce erosion and sedimentation of downstream waters and the Pacific Ocean.

Policy Number	Subject of Policy	Coastal Zone Assessment
Section 30240	Environmentally Sensitive Habitat Areas	Environmentally Sensitive Habitat Areas (ESHAs) in the Project biological study area include wetlands, riparian areas, and potential habitat for California red-legged frog, northern spotted owl, and marbled murrelet. The Project is expected to result in small areas of temporary and permanent impacts to ESHAs. Project Features and AMMs will be implemented to reduce impacts to ESHAs. Restoration of impacted areas will be accomplished through onsite revegetation. Specific compensation requirements for potential impacts to critical habitat for federally listed species, riparian vegetation, waters of the U.S., waters of the State, and Sonoma County coastal resources will be determined in coordination with USWS, CDFW, USACE, RWQCB, and Sonoma County LCP during the permitting process.
Section 30241-30242	Agricultural land	No Prime Farmland or Williamson Act parcels exist within the Project study area. The Project would not affect these resources.
Section 30244	Archaeological/ paleontological resources	The Project would not result in an adverse effect to archaeological and historical resources. Archaeological resources identified within the Project footprint will be avoided with the use of ESAs. No affects to paleontological resources are anticipated.
Section 30251	Scenic and visual qualities	The Project would not result in adverse effects to scenic vistas/resources in the Project footprint. The Project was designed such that scenic and visual qualities of coastal areas would be protected as a resource of public importance. The Project would not alter natural landforms.
Section 30254	Public works facilities	With the Project, SR 1 would remain a two-lane coastal scenic roadway.
Section 30604	Coastal development permits shall include a finding that the development is in conformity with public access and public recreation policies.	The Project would be in conformity with public access and public recreation policies.
Section 30609.5	State lands between the first public roadway to the ocean	Caltrans will conduct all activities in accordance with this policy.
Section 30706	Coastal hazards	The purpose of the Project is to maintain continued connectivity for SR 1, increase reliability and protect SR 1 from geologic hazards in the form of coastal erosion.

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

Policy Subject	Coastal Zone Assessment
Shoreline Access	The Project would preserve coastal public access by increasing highway safety and reliability by minimizing emergency road closures to SR 1 which would interfere with shoreline access to parks, beaches and oceanfront land.
Recreation and Visitor-Serving Facilities	The Project would not interfere with public access to the ocean and the beach. Coastal recreation and visitor-serving facilities would be protected and maintained.
Transportation	The Project would improve coastal public access by increasing highway safety and reliability.
Environmentally Sensitive Habitat Areas	Potential adverse effects to ESHAs have been reduced to the extent practicable through Project Features and AMMs. The Project would avoid ESHAs where practicable and enhance or replace lost habitat post construction to ensure no net loss.
Agriculture	No Prime Farmland or Williamson Act contracts exist within the Project footprint. The Project would have no effect on these resources.
Public Works	The Project would not adversely affect public works in the Project footprint. Caltrans would submit the Project to Sonoma County for review, comment and findings as to its conformity with the LCP during the coastal development permit process.
Coastal Watersheds	The Project would minimize erosion and sedimentation that could harm coastal watersheds by replacing existing culverts along SR 1.
Visual and Scenic Resources	The Project would not result in adverse effects to scenic vistas/resources. The Project was designed such that scenic and visual qualities of coastal areas would be protected as a resource of public importance. The Project would not alter natural landforms.
Hazards	The purpose of the Project is to maintain continued connectivity for SR 1 and to protect the highway from geologic hazards in the form of coastal erosion.
Archaeology	The Project would not result in an adverse effect to archaeological and/or historical resources with the implementation of ESA Action Plans. A Finding of No Adverse Effect with Standard Conditions was determined for this Project under Section 106.
Air Quality	No air quality impacts are anticipated to result from the Project.

Sonoma County State Route 1 Repair Guidelines

Caltrans in coordination with CCC, State Parks, and Sonoma County, prepared the Sonoma County State Route 1 Repair Guidelines (Caltrans 2019b) (Guidelines) to promote stewardship and sustainability of state transportation resources along SR 1 through a shared vision with respect to coastal resources within the Coastal zone. The Guidelines are not a policy plan but instead provide a framework to enable more timely repairs that are not only functional and consistent with the rural character of,

and landscape, uses, and regulatory and land management policies associated with SR 1.

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

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

Design Guideline	SR 1 Repair Recommendation	Guidelines Assessment
Parking, Pullouts, Unpaved Shoulders, and Turnouts	No net loss of parking, pullouts, or turnouts. Non-pavement treatments should be used where feasible. Other development of the area beyond the shoulder should be minimized and fit in with the natural environment. The Project would have no effect on existing parking, pullouts, or turnouts.	Pullouts within the Project footprint will be utilized for staging during construction. The temporary use of the pullouts for the Project will not result in a permanent loss of existing pullouts. Modifications to travel-way widths, shoulder widths and the roadway alignment are not part of the Project scope and will be avoided.
Drainage Features	Drainage pipes should be hidden from view where feasible. Pipes that cannot be hidden should be colored with earth-tone coating to conceal them. Concrete drainage features should be colored to match adjacent earth tones. Drainage rock used as dissipaters should be colored earth tone to reduce visual impacts. Inlets should be sited outside of where bicyclists are most likely to ride, if feasible, and shall use bicycle-proof grates.	The design phase of the Project will incorporate aesthetic treatments and be designed such that drainage features harmonize to the extent possible with the adjacent landscape, e.g., drainage elements will be colored to blend with their surroundings.
Ditches	Ditches should be designed to blend into the surrounding landscape. Concrete and metal facilities should be treated to match the surrounding terrain. Where appropriate, drainage ditches should be designed in conjunction with the shoulder to reduce the amount of pavement and widening needed, following the provisions of Chapter 830 of the Highway Design Manual.	Ditch grading will vary by location depending on the existing topography and the amount of soil/earth to be moved in order to direct runoff into adjacent drainage systems. Ditch grading will be designed to blend into the surrounding facilities. Associated drainage features will be colored to blend with their surroundings.
Bicycles and Pedestrians	Pedestrians and bicyclists should be accommodated in all Projects. Dedicated pedestrian facilities should be incorporated into Projects on a case-by-case basis where there is an identified need and in coordination with local stakeholders.	Where the proposed culvert replacements occur coincident with or along the existing CCT, the Project would protect and accommodate pedestrian and bicycle users during construction with a TMP (AMM TRANS-1). No permanent impacts to the CCT would occur with the Project.

As discussed, the Project would be consistent with the Sonoma County General Plan 2020, Sonoma County Local Coastal Program, the Coastal Zone Management Act, and the Guidelines. There would be less than significant impacts.

Mineral Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				X
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?				X

a, b) No Impact

The Project does not occur in a known mineral resource zone. Therefore, no impacts on mineral resources would result from the Project.

Noise

Would the Project Result In:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				X
b) Generation of excessive groundborne vibration or groundborne noise levels?				X
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?				X

A Noise Memorandum (Caltrans 2018k) was prepared for this Project 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway Projects. Caltrans uses this same definition when evaluating state Projects without federal funding. The Project was determined not to be a Type I Project per 23 CFR 772 because the Project would not increase highway capacity; therefore, a noise study is not required, and noise abatement need not be considered.

a, b) No Impact

The project corridor is along SR 1, a highway that creates relatively low background noise levels. Ambient noise levels may temporarily be increased due to various construction activities. Noise impacts in excess of standards established in the Sonoma County General Plan, groundborne vibrations, or ambient noise would not occur (Sonoma County 2016).

c) No Impact

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

Project Features

Project Feature NOISE-1: Noise Best Management Practices. Construction equipment will be required to conform to Section 14-8.02, Noise Control, of the latest Caltrans Standard Specifications during all phases of construction.

Population and Housing

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

a, b) No Impact

The Project would not induce population growth because the project would not increase the capacity of SR 1, remove barriers to future growth, or increase population or housing growth (or demand for new housing, utilities, or public services) in Sonoma County. The Project would not induce substantial population growth, displace housing, or displace people; therefore, there would be no impact to population and housing.

Public Services

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

a) No Impact

The Project would not result in the substantial alteration of government facilities in the Project area, such as fire and police protection, schools, parks or other public facilities, nor trigger the need for new government facilities or alter the demand for public services. A TMP would be prepared (AMM TRANS-1 in the Transportation and Traffic section) and implemented during construction. Thus police, fire, and medical services would not be adversely affected by the Project. There would be no impact.

Recreation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
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?				X

As documented in the *Section 4(f) Analysis* (Caltrans 2020) prepared for this Project, a 3.4-mile stretch of this Project is located adjacent to Salt Point State Park. Salt Point State Park encompasses 6,000 acres with 20 miles of hiking and equestrian trails, offering a variety of recreational activities including camping, picnicking, fishing, diving, kayaking, horseback riding and hiking.

a, b) Less than Significant Impact

Within Salt Point State Park, the Project would require TCEs and a PDE from PM 41.65 to PM 43.37, beginning on the north shore of Stump Beach Cove, following the highway north, and ending just north of Cannon Gulch (Table 3-3). Throughout the 3.4-mile segment, Salt Point State Park is on either side of the highway – not including PMs 42.8 – PM 43.2 – where State Park land is limited to the west side of the highway.

Location	PM	Existing Pipe: length and type	TCE: west/east of roadway; size (square feet)	PDE: west/east of roadway (square feet)	Proposed Rehabilitation Strategy
4	41.65	12” × 40’ corrugated steel pipe (CSP)	west, 200 ft^2		Replace with a 24” × 55” × 40’ corrugated steel pipe arch (CSPA) Grade upstream and downstream
5	42.11	18” × 40’ CSP			Replace with a 24” × 40’ CSP Place inlet with two-sided opening on both upstream and downstream ends Grade downstream
6	42.36	18” × 40’ CSP	west, 200 ft^2		Replace with an 18” x 45’ CSP Replace headwall upstream Grade downstream
7	42.41	18” × 40’ CSP	east, 200 ft^2 and west, 375 ft^2	west, 375 ft^2	Replace with a 30” x 40’ CSP Place headwall on upstream end Rock slope protection (RSP) on downstream end
8	42.93	12” × 40’ CSP	west, 200 ft^2		Replace with an 18” × 50’ CSP Regrade ditch east of roadway Grade upstream and downstream
9	43.37	18” × 35’ reinforced concrete pipe (RCP)			Replace with 24” × 35’ RCP Place Flared End Section (FES) and RSP on downstream end Place inlet approximately 30’ north of cross culvert. This inlet will connect two existing inlets that run parallel to the roadway (within a ditch) and convey water into the culvert crossing Connect the 2 existing inlets (located in the northbound lane) with a 28” x 20” x 30’ CSPA Grading as needed

The Project would also require temporary lane closures on SR 1 at each of the 10 locations of culvert work adjacent to Salt Point State Park. To maintain the flow of traffic, a one-way traffic control system will be utilized providing continued access to destinations within the State Park (AMM TRANS-1 in the Transportation and Traffic

section). Because the TCEs and PDE, as well as the temporary lane closures for this Project are minor in nature, deterioration of existing parks or the need for construction of new recreation facilities is not anticipated. Any disturbance to State Parks land would be revegetated in coordination with CDPR (AMM REC-1). Therefore, impacts to recreation would be less than significant.

Avoidance and Minimization Measures

AMM REC-1: Establish Planting Agreement with California Department of Parks and Recreation. For areas on or adjacent to State Parks lands, Caltrans will coordinate with State Parks regarding the treatment of areas disturbed by the Project. Coordination shall cover work on areas disturbed within the Caltrans right of way and on State Parks lands. The scope of work for revegetation, weed management, and erosion control plans will generally include (1) collection of local seed and propagation of local plant material, (2) plant installation and plant establishment on Caltrans right of way and State Parks land for up to 5 years, and (3) exotic weed management. Consult Caltrans Erosion Control Unit for Project-specific BMPs and erosion control plans and special provisions. Depending on the plant species involved, collection of seeds may require 24 months or more in advance of construction. Therefore, seed collection work may be required as soon as PA&ED for this Project.

Transportation and Traffic

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

Within the Project corridor, SR 1 consists of two, 11-foot-wide lanes and 0- to 1-foot shoulders. This Project would maintain all existing nonstandard roadway features, including design speeds, lane and shoulder widths, curve radii, cross slopes, super-elevations, maximum grade, and sight distance.

There are limited, but daily, bus services operated by Mendocino Transit Authority (No. 95) that connects the rural communities along SR 1 to Sebastopol and Santa Rosa. In addition, the Project corridor is part of the Pacific Coast Bicycle Route and a portion of it is part of the CCT. The Project corridor currently contains no striped bike lanes, but a 15.5-mile Class II lane is proposed for development beginning at approximately PM 42.9, and extending beyond the terminus of the Project limits (PM 54.6) at Gualala Bridge (SCTA 2014).

The Project could cause short-term localized traffic congestion and delays due to temporary lane closures. One-way traffic control would consist of flaggers to regulate traffic and portable cones to separate the lane open to traffic from the lane under construction. The Project would not permanently alter the circulation system and would have no impact on vehicle miles traveled.

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

The Project would not conflict with the programs, plans, ordinances or policies of Sonoma County's circulation system, including public transit, bicycle, or pedestrian

facilities. Within the County, multimodal planning documents include the Circulation and Transit Element of the Sonoma County General Plan (Sonoma County 2016), Sonoma County's Comprehensive Transportation Plan (Sonoma County Transportation Authority 2016), SCTA Countywide Bicycle and Pedestrian Masterplan (Sonoma County Transportation Authority 2014), and the California Coastal Trail (California Coastal Conservancy 2019).

As discussed below in AMM TRANS-1, a TMP would be developed during the design phase and implemented during construction. The TMP will include one-way traffic controls, flaggers, and construction phasing to reduce impacts to local residents and maintain access to residential driveways along the Project corridor and to other destinations along SR 1. As part of the TMP, Mendocino Transit Authority would be notified prior to construction to minimize service disruption. Impacts would be less than significant.

b) Less than Significant Impact

Per CEQA Guidelines Section 15064.3, the Project would have no impact on vehicle miles traveled; therefore, the Project is presumed to cause a less than significant transportation impact.

c) No Impact

The scope of the Project does not include changes to any existing geometric design features and would not substantially increase hazards (e.g., sharp curves or dangerous intersections). There would be no impact.

d) Less than Significant Impact

Medical and emergency vehicles would be able to continue to use SR 1 in the local area to serve fire, medical, and law enforcement purposes. Flaggers would give priority to emergency vehicles along SR 1. The impact would be less than significant.

Avoidance and Minimization Measures

AMM TRANS-1: Develop a Transportation Management Plan. To offset temporary disruptions during construction, a TMP will be developed by Caltrans with input from the local community during the design phase. The TMP will be consistent with the Sonoma 1 Guidelines and ensure the protection of bicycle through access, and the minimization of public access impacts that have the potential to occur during construction. The TMP will include one-way traffic controls, flaggers, and

construction phasing to reduce impacts to local residents and maintain access for all users to destinations along SR 1. The TMP will ensure continued Project corridor access for emergency services. The TMP will also include coordination with Sonoma County and public notification in the event of an emergency. The TMP will maintain access to residential driveways and State Parks that are near construction activities.

Tribal Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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: 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			X	
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.			X	

A Historic Property Survey Report, Archaeological Survey Report and Extended Phase I Report were developed in 2019 to identify historic properties in an Area of Potential Effect (APE) developed by Caltrans.

a, b) <u>Less than Significant Impact</u>

Based on the studies completed for this Project, consultation with local tribes consistent with Assembly Bill 52, and the results of field surveys, it was determined that the tribal cultural resources present within the APE are eligible for the California Register of Historical Places. Two locations within the Project footprint were identified needing ESA Actions Plans to protect cultural resources from inadvertent Project effects. AMM CULT-1 as well as Project Features CULT-(1-3) would ensure the protection of sensitive cultural resources throughout Project construction. Therefore, there would be a less than significant impact.

Information on tribal coordination and consultation for this Project are described in the Cultural Resources section of this document.

Utilities and Service Systems

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

There is a fiber optic line owned by Frontier Communications that runs along SR 1 from approximately PM 30.0 to PM 52.0. Other utilities in the area include Pacific Gas & Electric Company (PG&E) electrical overhead lines which run along or near SR 1 and some underground electrical conduits in the small communities along the highway. No water or sewer run adjacent to the highway, but there may be local water and/or sewer owners in Stewarts Point or Sea Ranch near SR 1. Caltrans is awaiting confirmation from PG&E to determine if the company owns gas lines in the area.

a) Less than Significant Impact

The Project may result in the temporary relocation of the fiber optic line that runs from PM 30.0 to 52.0. Caltrans staff will determine if the line can be protected in place during construction. If protection in place is not possible, Frontier

Communications will be notified of construction schedules for the Project so temporary relocation around the culverts can be accommodated during construction (Project Feature UTIL-1).

b, c) No Impact

The Project would repair existing culverts along SR 1 and would not require water supply during or post-construction. In addition, the Project would not result in increased wastewater demand. There would be no impact.

d, e) No Impact

The Project would not result in substantial demands for solid waste disposal and would comply with federal, state, and local statutes regarding solid waste. No solid waste would be generated by the Project post-construction.

Project Feature

Project Feature UTIL-1: Notify Utility Owners of Construction Schedule to Protect Buried Utilities. Caltrans shall notify all affected utility companies, including Frontier Communications, and PG&E, of the construction schedules for the Project so that relocation can be conducted by each utility company as necessary prior to the start of construction.

Wildfire

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
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?				X
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?				X
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?				X

The Project is located within areas of state responsibility where Cal Fire is the primary emergency response for fire suppression and prevention. Fire Hazard Severity throughout the Project limits is zoned as moderate, high, and very high (CAL FIRE 2007).

a) Less than Significant Impact

A TMP (AMM TRANS-1) would be developed during the design phase and implemented during construction that would identify traffic diversion/staging and alternative routes. Emergency response times are not anticipated to change during construction because the TMP would provide measures to ensure priority for emergency vehicles during one-way traffic control. The TMP would provide instructions for response and evacuation in the event of an emergency. In addition, this Project would not conflict with any other emergency response or evacuation plan. The impact would be less than significant.

b, c, d) No Impact

The Project proposes to replace existing culverts on SR 1, and therefore would not have occupants nor would it require the installation of associated infrastructure that would exacerbate fire risk. To minimize run-off during and after construction, the Project will implement Water Quality Project Features 1-3 (Hydrology and Water Quality section); therefore, the Project will not expose people to significant risks including downslope or downstream flooding or landslides. There would be no impact.

Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
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)?				X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

a) Less than Significant Impact

The Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number of or restrict the range of a rare or endangered plant or animal.

The Project would result in temporary minor impacts to riparian habitat and temporary and permanent minor impacts to some vegetation communities such as native and non-native perennial coastal grassland. The Project has the potential to trim or remove up to 41 trees and has the potential to have direct and indirect temporary impacts to wetlands and waters of the U.S. The Project would have minimal permanent impacts and temporary impacts to CRLF habitat and could potentially result in the loss of small numbers of CRLF, if present during construction activities. The Project has the potential to remove suitable habitat for the northern spotted owl, marbled murrelet, and Sonoma tree vole; however, it is not anticipated

that these species will be present within the BSA based on biological surveys. Potential impacts could occur to the Myrtle's silverspot butterfly, Behren's silverspot butterfly, and the California giant salamander, which could potentially be present within the BSA, but with the implementation of Project Features and AMMs, these potential impacts would be avoided or minimized to a less than significant level. The Project would not eliminate important examples of the major periods of California history or prehistory.

b) No Impact

The Project involves the replacement of existing culverts under SR 1 in a rural environment. There is another Caltrans culvert rehabilitation Project south of the Project limits (Caltrans EA 04-1K730) which includes the replacement of 23 culverts from PMs 30.8 to PM 40.6. No other Projects are known to be proposed in the Project corridor. There would be no cumulative impacts.

c) Less than Significant Impact

Rural residences are scattered along much of the Project corridor. There are 13 culvert replacements (PMs 51.53, 51.56, 51.94, 53.15, 53.34, 53.59, 53.64, 53.67, 54.06, 54.12, 54.26, 54.48, and 54.65) that occur in close proximity to rural residences. Due to proximity of these residences, directional lighting and/or shielding would be used as necessary for all night work, access to residential driveways within close proximity to construction activities would be maintained at all times, and noise and air quality BMPs will be implemented to address noise and dust impacts. Therefore, temporary construction-related activities would not result in permanent or significant environmental impacts to human beings.

Chapter 4 Comments and Coordination

To date, agency coordination consists of the following:

- In September and October of 2018, Caltrans consulted with the Native American Heritage Commission and local Native American tribes. Follow-up calls were conducted on November 6, 2018. Responses were received and coordination was conducted with the following tribes: The Kashia Band of Pomo Indians of Stewarts Point, Lytton Rancheria, Federated Indians of Grafton Rancheria.

- On September 19, 2019, Rachel Cotroneo (CH2M) sent John Cleckler (USFWS) an email on behalf of Caltrans requesting technical assistance for Caltrans Expenditure Authorization (EA) 04-1K750, Drainage System Restoration Project.

- On January 16, 2019, Caltrans spoke with Ms. Dionne Gruver (California Department of State Parks and Recreation) to discuss any concerns or questions regarding Project locations under State Parks jurisdiction.

- On September 5, 2019, Caltrans sent Peter Allen (California Coastal Commission [CCC]) an email with the most recent Project description, asking for input on behalf of the CCC for coastal resources potentially affected by the Project. A response was received from the CCC September 5, 2019.

- On July 23, 2020, the USFWS (John Cleckler) issued a biological opinion for the proposed project.

Chapter 5 List of Preparers

The primary persons responsible for contributing to, preparing, and reviewing this report are listed in Table 5-1.

Table 5-1 List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Melanie Brent	Deputy District Director, Environmental Planning and Engineering
Caltrans	Stefan Galvez-Abadia	Division Chief, Environmental Planning and Engineering
Caltrans	Jennifer Blake	Associate Archaeologist, Office of Cultural Resource Studies
Caltrans	Helen Blackmore	Architectural Historian, Sr., Office of Cultural Resource Studies
Caltrans	Robert Blizard	Brach Chief, Office of Biological Sciences and Permits
Caltrans	Revisha Brar	Water Quality Engineer, Office of Water Quality
Caltrans	Jennifer Chen	Water Quality Engineer, Office of Water Quality
Caltrans	Bryan Chew	Transportation Engineer, Utilities
Caltrans	Austin Dang	Design Engineer, Design North Counties
Caltrans	Chris Else	Landscape Associate, Landscape Architecture
Caltrans	Keith Fang	Transportation Engineer, Office of Environmental Engineering
Caltrans	Matthew Gaffney	Engineering Geologist, Office of Geotechnical Design-West
Caltrans	Lindsay Vivian	Office Chief, Office of Environmental Analysis
Caltrans	Sophie Kolding	Associate Biologist, Office of Biological Sciences and Permits
Caltrans	Kevin Krewson	Branch Chief, Office of Environmental Engineering
Caltrans	Nghia Nguyen	Transportation Engineer, Office of Hydraulic Engineering
Caltrans	Susan Lindsay	Sr. Landscape Architect, Office of Landscape Architecture
Caltrans	Arnica MacCarthy	Branch Chief, Office of Environmental Analysis
Caltrans	Shilpa Marredy	Transportation Engineer, Noise/Air Quality
Caltrans	Liz Nagle	Associate Environmental Planner, Office of Environmental Analysis
Caltrans	Muthanna Omran	Project Manager, Deputy Program/Project Management
Caltrans	Kathleen Reilly	Branch Chief, Office of Hydraulic Engineering

Organization	Name	Role
Caltrans	Chris Risden	Geotechnical Design, Office of Geotechnical Design-West
Caltrans	Kathryn Rose	Branch Chief, Cultural Resources/Archaeology
Caltrans	Ronald Sangalang	Project Engineer, Design North Counties
Caltrans	Jeffrey Ting	Transportation Engineer, Office of Traffic Safety
Caltrans	Chris Wilson	Branch Chief, Office of Environmental Engineering
CH2M HILL	Rachel Cotroneo	Consultant Biologist
CH2M HILL	Kevin Fisher	Consultant Biologist

Chapter 6 Distribution List

The Initial Study with proposed Negative Declaration was circulated on February 20, 2020, to the following agencies and government officials:

Agencies

U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers

North Coast Regional Water Quality Control Board

California Department of Fish and Wildlife

California Department of Parks and Recreation

California Coastal Commission

Governor's Office of Planning and Research

Sonoma County Permit and Resource Management

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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November 2019

NON-DISCRIMINATION POLICY STATEMENT

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

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

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To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix B Summary of Project Features and Avoidance and Minimization Measures

Project Features

Project Feature AES-1: Comply with *Final Sonoma State Route 1 Repair Guidelines.* Design elements will comply with the *Final Sonoma State Route 1 Repair Guidelines* (Caltrans 2019b) to the maximum extent feasible. During the design phase the Project will incorporate aesthetic treatments and be designed so that all elements harmonize to the extent possible with the adjacent landscape, e.g., drainage elements will be colored to blend with their surroundings. Modifications to travel-way widths, shoulder widths and the roadway alignment are not part of the Project scope and will be avoided. The Guidelines integrate and balance safety, mobility, and maintenance goals with environmental values consistent with design best suited for the SR 1 corridor.

Project Feature AES-2: Avoid Unnecessary Removal of Vegetation. During construction, attempts will be made to avoid impacts to all vegetation, and in particular, existing native trees. A qualified biologist, arborist, or landscape architect will work with the Resident Engineer and contractor to adjust the approach to construction work to avoid damage to or removal of native trees wherever possible.

Project Feature FAR-1: Farmlands. Temporarily impacted farmland will be restored to pre-existing conditions after Project construction.

Project Feature TIM-1: Timberlands. Temporarily impacted timberlands will be restored to pre-existing conditions after Project construction.

Project Feature BIO-1: Replant, Reseed, and Restore Disturbed Areas. Caltrans will restore temporarily disturbed areas to the maximum extent practicable. Disturbed areas from construction will be contoured to conform to the surrounding landscape and restored using a combination of compost application and native plantings and hydroseeded mix. Invasive, non-native plants, duff, and excavated material containing invasive plant material will be cleared from the Project footprint. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion.

Project Feature CULT-1: Stop Work Upon Discovery of Cultural Materials. If cultural materials are discovered during construction, all earth-moving activity within a 60-foot radius will be halted until a Caltrans PQS can assess the nature and significance of the find.

Project Feature CULT-2: Discovery of Tribal Cultural Resources. If any tribal cultural resources are found, these resources will be delineated on the ground with temporary fencing. No construction-related activities or staging would be permitted within these areas.

Project Feature CULT-3: Additional Actions if Cultural Materials Contain Human Remains. If Caltrans PQS determines that cultural materials contain human remains, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. Caltrans' OCRS will contact the Sonoma County Coroner. Pursuant to PRC Section 5097.98, if the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendent. The Caltrans OCRS will work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Project Feature WQ-1: Construction Site BMPs. To prevent or reduce water quality impacts to the Project corridor, BMPs will be deployed for sediment control, pH, and material management. BMPs will include measures for soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and drainage inlet protection. These BMPs will include measures such as, but not limited to, temporary concrete washouts, street sweeping, fiber rolls, silt fences, hydraulic mulch, and construction entrances.

Project Feature WQ-2: Temporary Stream Diversions. Temporary stream diversions will be used when necessary for culvert replacements. If needed, stream diversion will be determined during the design phase of the Project.

Project Feature WQ-3: Permanent BMPs. To minimize and avoid potential post-construction impacts to water quality, the Project will consider DPP and treatment BMPs. DPP BMPs will be used to minimize runoff, maximize infiltration, maximize vegetation (depending on the location) and reduce erosion. Treatment BMPs will improve the quality of stormwater post-construction and will include Caltrans approved measures such as biofiltration and bioretention systems.

Project Feature GEO-1: Installation of Rock Slope Protection. At PMs 30.81, 31.44, and 40.33, RSP will be installed to prevent erosion below the culverts.

Project Feature GEO-2: Headwalls and Down Drains. At PMs 30.81, 31.76, and 37.17, headwalls will be installed at either the upstream end (PMs 30.81 and 31.76) or downstream end (PM 37.17) of the culvert to prevent separation of culvert joints and prevent infiltration of water into soil surrounding the culvert. To dissipate energy, new or replacement down drains will be installed at some of the culverts.

Project Feature GHG-1: Control Measures for Greenhouse Gases. Measures will be determined during the design phase and implemented during construction to 1) ensure regular construction maintenance of vehicle and equipment; 2) limit idling of vehicles and equipment onsite; 3) recycle nonhazardous waste and excess material if practicable; and 4) use solar-powered signal boards, if feasible.

Project Feature WQ-1: Construction Site BMPs. To prevent or reduce water quality impacts to the waterways and watersheds that occur within the Project area, BMPs will be deployed for sediment control, pH, and material management. BMPs will include measures for soil stabilization, sediment control, wind erosion control, tracking control, non-stormwater management, and drainage inlet protection. These BMPs will include measures such as, but not limited to, temporary concrete washouts, street sweeping, fiber rolls, silt fences, hydraulic mulch, and construction entrances.

Project Feature WQ-2: Temporary Stream Diversions. Temporary stream diversions will be used when necessary for culvert replacements. Stream diversion will consist of coffer dams and conduit to direct the stream through the existing culverts to the downstream end.

Project Feature NOISE-1: Noise Best Management Practices. The following BMP will be implemented during all phases of construction activities to reduce noise:

- Require construction equipment to conform to Section 14-8.02, Noise Control, of the latest Caltrans Standard Specifications.

Project Feature UTIL-1: Notify Utility Owners of Construction Schedule to Protect Buried Utilities. Caltrans shall notify all affected utility companies, including Frontier Communications, and PG&E, of the construction schedules for the

Project so that relocation can be conducted by each utility company as necessary prior to the start of construction.

Avoidance and Minimization Measures

AMM AES-1: Revegetate Disturbed Areas Upon Completion of Construction. Following construction, seeding with local varieties of native plants will enhance the visual quality and character of the Project corridor and help to quickly revegetate any disturbed areas. Areas of RSP will be covered with amended soil and vegetated if such treatment is deemed appropriate. Grasses and shrubs removed during construction will be replanted with native species appropriate for the location, using closely matched seed to the maximum extent possible. Where tree replanting is appropriate or required, trees will be grown from locally collected stock if feasible. All replacement planting, by seed or with propagated local varieties of native plants, will include a plant establishment period (PEP) of at least one year. Any revegetation installations that cannot recover to a comparable size within one year of the initial disturbance will require the establishment of a follow-up project that includes a PEP of up to five years "to provide confidence in replacement [planting] across a period of more variable conditions". A temporary truck-watering irrigation system will be provided as needed based on the type of plants, Project timing, and time of year.

AMM AES-2: Nighttime lighting. Nighttime lighting will be minimized to the extent possible. In areas where nighttime lighting is required, lights will be shielded, directed downward, and will only illuminate the Project work areas.

AMM AES-3: Treatment of RSP. Voids in the newly installed RSP will be back-filled with, and the RSP will then be covered with, topsoil that is a combination of uniformly blended local soil and fine compost. The RSP will then be seeded with local varieties of native seed. Rock used in RSP would blend with the native rock and soil.

Avoidance and Minimization Measures for Rare Plants

AMM BIO-1: Pre-construction Surveys for Rare Plants. A qualified biologist shall conduct a survey during the appropriate blooming period for all special-status plants that have the potential to occur on the Project site the season prior to the start of construction. Surveys should be conducted following Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities, prepared by CDFW, dated March 20, 2018. If a special- status plant is detected, the Project limits boundary would be adjusted to avoid impacting the species (AMM BIO-2).

A qualified biologist in this context should be knowledgeable about plant taxonomy, familiar with plants of the region, and have experience conducting botanical field surveys according to vetted protocols.

If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) would be warranted (pursuant to Fish and Game Code Section 2080 et seq.).

AMM BIO-2: Avoid or Minimize Disturbance to Rare Plants. If special-status plants are identified during the surveys, the following actions may be undertaken:

1. **Avoid Rare Plants**. The Project footprint may be adjusted, if practicable, to completely or partially avoid impacting special-status plants species.

2. **Minimize Disturbance to Rare Plants.** If complete or partial avoidance is not practicable, implementation of the following actions may be required:
   1) collection of special-status plant seed, bulbs, other propagules, or topsoil prior to construction for use in future onsite restoration or enhancement actions;
   2) restoration or enhancement of suitable special-status plant habitat onsite; or
   3) restoration or enhancement of suitable special-status plant habitat offsite.

Avoidance and Minimization Measures for California Red-legged Frog

AMM BIO-3: Proper Use of Erosion Control Devices. Plastic monofilament netting (i.e., erosion control matting), rock slope protection filter fabric, geotextile or similar material will not be used. Acceptable substitutes would include coconut coir matting or tackifying hydroseeding compounds.

AMM BIO-4: Biological Monitoring. A biological monitor will be present during construction activities where potential impacts to a listed species could occur. Through communication with the Resident Engineer or his/her designee, the biological monitor may stop work if deemed necessary for any reason to protect listed species and will coordinate with the Resident Engineer or designee on how to proceed accordingly.

AMM BIO-5: Surveys for California Red-legged Frog. The biological monitor will conduct a preconstruction CRLF survey, in addition to daily inspections, if necessary, before the start of work. Visual surveys will be conducted immediately before ground-disturbing activities. Suitable non-breeding aquatic and upland habitat within the Project footprint, including refugia habitat such as under shrubs, downed

logs, small woody debris, burrows, etc., will be inspected. If a CRLF is observed, the individual will be evaluated and relocated in accordance with the observation and handling protocol outlined below. Fossorial mammal burrows will be inspected for signs of frog usage, to the extent practicable. If it is determined that a burrow may be occupied by a CRLF, USFWS will be contacted and work in the vicinity of the burrow stopped. At the end of a work day, any open ground work deeper than 12 inches, that cannot be completed, must be covered.

AMM BIO-6: Protocol for California Red-legged Frog Observation. If CRLF are encountered in the Project footprint, work within 50 feet of the animal will cease immediately and the Resident Engineer and biological monitor will be notified. Based on the professional judgment of the biological monitor, if Project activities can be conducted without harming or injuring the animal(s), they may be left at the location of discovery and monitored by the biological monitor. Project personnel will be notified of the finding, and at no time will work occur within 50 feet of the animal without a biological monitor present.

Avoidance and Minimization Measures for the Northern Spotted Owl

AMM BIO-7: Occupied Northern Spotted Owl Habitat. If Project activities will occur during the NSO nesting season (February 1-July 31st), then a qualified biologist shall conduct surveys for NSO following the U.S. Fish and Wildlife Service's (USFWS) Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls, dated (Revised) January 9, 2012. Surveys shall be conducted in accordance with section 9 of the survey protocol, “Surveys for Disturbance-Only Projects”. A qualified biologist should be familiar with NSO ecology, have proven success identifying NSO aurally and visually, and have at least two seasons of experience surveying for NSO using the USFWS protocol.

If NSO surveys determine that the work area is occupied, Caltrans will adhere to the following measures:

1. **Vegetation Removal or Alteration:**

    c. No suitable NSO nest trees will be removed during the nesting season (February 1-July 31st).

    d. Suitable habitat may be removed or altered outside the nesting season provided “no take” guidelines are adhered to for all known NSO home ranges

within 1.3 miles of the work areas in interior forests or within 0.7 mile of the work areas in coastal [redwood] forests (USFWS 2014).

2. **Auditory or Visual Disturbance:**

    a. If Project-generated sound will not exceed ambient nest conditions by over 20 decibels and total combined sound (ambient and Project-generated) during Project activities does not exceed 90 decibels, then noise impacts would likely be less than significant, and NSO surveys may not be necessary (USFWS 2006). Pre-Project sound conditions should be accurately measured and documented to justify a no-survey outcome and the method of sound monitoring to determine if levels exceed 90 decibels should be adequately described to allow CDFW to comment on the methods. Above-ambient sound level restrictions will be lifted after July 31.

    b. No human activities will occur within a visual line of sight of 131 feet or less from any known nest locations within the action area (USFWS 2014).

3. **California Endangered Species Act (CESA)**

    a. If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) would be warranted (pursuant to Fish and Game Code Section 2080 et seq.).

AMM BIO-8: Unoccupied Northern Spotted Owl Habitat. If NSO surveys (using the USFWS's 2012 survey protocol) determine that all suitable NSO habitat within 0.7 mile of the work areas in coastal [redwood] forests or within 1.3 miles of the work areas in interior forests is unoccupied, suitable habitat may be removed or altered without seasonal restrictions, provided "no take" guidelines are adhered to. The USFWS considers previously occupied habitat as essentially "occupied" in perpetuity. Therefore, adequate (based on the "no take" guidelines mentioned) suitable nesting\roosting and foraging habitat must be maintained within all historical NSO territories within the action area.

Avoidance and Minimization Measures for the Marbled Murrelet

AMM BIO-9: Occupied Marbled Murrelet Habitat. If MAMU surveys (using the USFWS's 2003 survey protocol; USFWS 2014) determine that the work area is

occupied, or Caltrans presumes MAMU occupancy without conducting surveys, Caltrans will adhere to the following avoidance and minimization measures:

1. **Vegetation Removal or Alteration:**

    a. No potential MAMU nest trees will be removed during the nesting season (February 1 to September 30).

    b. Potential Suitable habitat may be removed or altered outside the nesting season (October 1 to January 31).

    c. Caltrans must ensure that there are no "adverse effects" to designated MAMU critical habitat within the Project footprint. Caltrans must contact the USFWS to determine whether proposed habitat removal within designated critical habitat would constitute an adverse effect.

2. **Auditory or Visual Disturbance:**

    a. No proposed activity generating sound levels 20 or more dB above ambient sound levels or with maximum sound levels (ambient sound level plus activity-generated sound level) above 90 dB (excluding vehicle back-up alarms) may occur within suitable MAMU nesting habitat during the majority of the MAMU nesting season (i.e., March 24 to August 5; USFWS 2014).

    b. No human activities will occur within visual line of sight of 131 feet or less from a nest (USFWS 2014).

3. **California Endangered Species Act (CESA)**

    a. If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) would be warranted (pursuant to Fish and Game Code Section 2080 et seq.).

AMM BIO-10: Unoccupied Marbled Murrelet Habitat.

a. If protocol surveys determine that all suitable MAMU nesting habitat within the Project footprint is considered unoccupied, suitable nesting habitat may be removed or altered without seasonal restrictions.

b. Caltrans will ensure that there are no "adverse effects" to designated MAMU critical habitat within the Project footprint. Caltrans will contact the USFWS to determine whether the proposed habitat removal would constitute an adverse effect to designated critical habitat. However, the removal of a few small trees and shrubs would be exempt from this requirement.

Avoidance and Minimization Measures for the Myrtle's Silverspot Butterfly

AMM BIO-11: Pre-construction Survey for *Viola adunca*. Additional pre-construction surveys for *Viola adunca* will be conducted in the early spring (late February/early March), during the season prior to construction, referencing phenology trends observed at Fort Ross or other nearby reference populations. If *Viola adunca* are found in the work area, they will be flagged for avoidance. Negative findings for *Viola adunca* within the action area will indicate that the footprint does not contain suitable breeding habitat for MSB and BSB.

AMM BIO-12: Minimize Impacts to *Viola adunca,* MSB and BSB. If *Viola adunca* plants are found they will be flagged and fenced for avoidance during construction. Upon identification of *Viola adunca*, surveys shall also be conducted for the foraging species MSB and BSB. If host plants are considered potentially occupied by MSB or BSB then work will occur during the larval period and outside the flight season. In addition to work occurring during the larval period, the biological monitor will establish appropriate measures for MSB and BSB as necessary to protect the species.

If larval host plants cannot be avoided, then work will occur during the flight season, with a biological monitor present to survey for adult MSB and BSB. If MSB or BSB are observed in the work area, the biological monitor, through communication with the Resident Engineer or his/her designee, may stop work if deemed necessary for any reason to protect MSB, and BSB and will advise the Resident Engineer or designee on how to proceed accordingly.

Avoidance and Minimization Measures for the Sonoma Tree Vole

AMM BIO-13: Preconstruction Surveys for Sonoma Tree Vole. Before the start of construction, a qualified biologist will conduct a survey of the Project work areas and a 30-foot buffer beyond the Project footprint boundaries to determine the location of active and inactive STV nests. Any nests detected during the surveys will be recorded and mapped in relation to the construction disturbance footprint. In addition, the biologist will evaluate any signs of current activity. The biological monitor will work

with the Caltrans Resident Engineer to avoid impacting the species to the maximum extent practicable.

Avoidance and Minimization Measures for Trees

AMM BIO-14: Tree Planting. If necessary, re-planting of trees shall be accommodated within the Project limits after construction is complete. Trees with a diameter at breast height greater than two inches that are removed will be replaced at the following ratios: 3:1 for native trees and 1:1 for non-native trees. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted post-construction, based on the local species composition. PEP periods for trees within jurisdictional areas will be determined during the design phase when permits are obtained.

AMM TRANS-1: Develop a Transportation Management Plan. To offset temporary disruptions during construction, a TMP will be developed by Caltrans with input from the local community during the design phase. The TMP will be consistent with the Sonoma 1 Guidelines and ensure the protection of bicycle through access, and the minimization of public access impacts that have the potential to occur during construction. The TMP will include one-way traffic controls, flaggers, and construction phasing to reduce impacts to local residents and maintain access for all users to destinations along SR 1. The TMP will ensure continued Project corridor access for emergency services. The TMP will also include coordination with Sonoma County and public notification in the event of an emergency. The TMP will maintain access to residential driveways and State Parks that are near construction activities.

Appendix C List of Abbreviations

AES	Aesthetics
AMM	avoidance and minimization measure
APE	area of potential effects
AQ	air quality
ASR	Archaeological Survey Report
BMP	best management practice
BIO	biology
BSA	Biological Study Area
CA	California
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CCT	California Coastal Trail
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO_2	carbon dioxide
CULT	Cultural
CZMA	Coastal Zone Management Act
dB	Decibel
EA	Expense Authorization

EIR	environmental impact report
FES	flared end section
FYLF	Foothill yellow-legged frog
GHG	greenhouse gas
HPSR	Historic Property Survey Report
LCP	Local Coastal Plan
MBGR	metal beam guard rail
OCRS	Office of Cultural Resource Studies
PM	post mile
PRC	Public Resources Code
ROW	right of way
RSP	rock slope protection
SR	State Route
TMP	Traffic Management Plan
TRANS	transportation and traffic
TRIBE	tribal cultural resources
TTY	text telephone
VIA	Visual Impact Assessment
WQ	water quality

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Appendix E Special-status Species with Potential to Occur in the Biological Study Area

Table E-1 Special-status Plant Species with Potential to Occur in the Biological Study Area

Scientific Name	Common Name	CRPR[a]	FESA[b]	CESA[c]	Blooming Period	General Habitat	Micro-habitat, Elevation Range	Suitable Habitat in BSA/Project Footprint	Potential to Occur in BSA/Project Footprint	Effect Finding for Federally Listed Species
Agrostis blasdalei	Blasdale's bent grass	1B.2	-	-	May to July	Coastal dunes, coastal bluff scrub, coastal prairie	Sandy or gravelly soil close to rocks; often in nutrient-poor soil with sparse vegetation, Elev. 16.4 to 1,197.5 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Several occurrences reported from the BSA. One historical occurrence is reported from above Fishermans Bay, about 0.3 mile south of Stewarts Point, between PM 47.7 to 48.15. Species is also known from along SR 1, 2.3 miles south of Stewarts Point between PM 45.35 to 46.45 (CDFW 2019a).	-
Alopecurus aequalis var. *sonomensis*	Sonoma alopecurus	1B.1	FE	-	May to July	Marshes and swamps (freshwater), riparian scrub	Elev. 10 to 1,181.1 feet (USFWS 2011a)	No	**None.** Freshwater marsh and riparian scrub suitable habitat is present but species is unlikely to occur. Nearest known population is from Duncans Mills Marsh, at Duncans Mills, east of Jenner, 17 miles southeast of the BSA (CDFW 2019a). A small population at Ledson Marsh, about 40 miles southeast of the southern part of the BSA, is the only known extant population in Sonoma County (USFWS 2011a).	No effect
Amorpha californica var. *napensis*	Napa false indigo	1B.2	-	-	April to July	Broadleafed upland forest, chaparral, cismontane woodland	Openings in forest or woodland or chaparral, Elev. 393.7 to 6,561.7 feet	Yes	**Low.** Limited suitable habitat but species potentially could occur. Species is reported from 2 miles northwest of Cazadero on Fort Ross Road, about 11 miles southeast of the southern end of the BSA. Also known from Little Black Mountain, 16 miles southeast of the southern end of the BSA. Numerous reported occurrences occur farther east in the coastal hills (CDFW 2019a).	-
Arctostaphylos bakeri ssp. *bakeri*	Baker's manzanita	1B.1	-	CR	February to April	Broadleafed upland forest, chaparral	Often on serpentine, Elev. 246.1 to 984.2 feet	No	**None.** Suitable habitat is absent; species not expected to occur. Nearest known location is north and east of Camp Meeker and Occidental, about 0.5 to 6.6 air miles southeast of Monte Rio, more than 20 miles southeast of the BSA (CDFW 2019a).	-
Arctostaphylos bakeri ssp. *sublaevis*	The Cedars manzanita	1B.2	-	CR	February, April, May	Closed-cone coniferous forest, chaparral (serpentinite seeps)	Typically occurs in canyons and on slopes, Elev. 984.2 to 1,197.5 feet	No	**None.** Suitable serpentine habitat is absent; species not expected to occur. Nearest known location is in the Cedars, north of Cazadero, more than 20 miles from the BSA (CDFW 2019a).	-
Asclepias solanoana	Serpentine milkweed	4.2	-	-	May to July (August)	Chaparral, cismontane woodland, lower montane coniferous forest (serpentine)	Serpentine outcrops, Elev. 754.6 to 6,102.4 feet	No	**None.** Suitable habitat is absent; species not expected to occur. Known from the Headwaters of Big Austin Creek and East Austin Creek, at the Cedars, north of Cazadero, more than 20 miles from the BSA (Calflora 2019).	-
Astragalus agnicidus	Humboldt County milk-vetch	1B.1	-	CE	April to September	Broadleafed upland forest, North Coast coniferous forest	Openings, disturbed areas, sometimes roadsides, Elev. 393.7 to 2,624.67 feet	Yes	**Very Low.** Limited suitable habitat; distribution of species is very restricted but it potentially could occur. Known occurrences are from the vicinity of Gualala, about 5 miles north of the northern end of the BSA. One occurrence is known from the western slope of Brandt Ridge, Headwaters of Doty Creek, South of Gualala Mountain. The second occurrence is located at Fleming Ridge, in the vicinity of south fork of the Garcia River, approximately 2 miles west of Gualala Mountain (CDFW 2019a).	-

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Astragalus rattanii var. *rattanii*	Rattan's milk-vetch	4.3	-	-	April to July	Chaparral, cismontane woodland, lower montane coniferous forest	Gravelly streambanks, Elev. 98.4 to 2,706.69 feet	Yes	**Very Low.** Limited suitable habitat present; species is unlikely to occur. No recorded Sonoma County populations. Nearest documented population is from a plateau in the NE corner of the junction of Fish Rock & Iverson roads, near Gualala in Mendocino County (Calflora 2019), about 9 miles northeast of the north end of the BSA.	-
Brasenia schreberi	Watershield	2B.3	-	-	June to September	Marshes and swamps (freshwater)	Elev. 98.4 to 7,217.8 feet	Yes	**Low.** Limited suitable habitat present; species potentially could occur. One location reported from Miller Ridge, about 2.5 air miles northeast of Stewarts Point, about 2 miles east of SR 1 and the BSA (CDFW 2019a).	-
Bryoria spiralifera	Twisted horsehair lichen	1B.1	-	-	N/A	North Coast coniferous forest (immediate coast) (usually on conifers)	Elev. 0 to 98.4 feet	Yes	**Low.** Limited suitable habitat present; species potentially could occur. Distributional information on this species is at a USGS quadrangle level only. Known to occur in the Stewarts Point USGS topographic quadrangle (CDFW 2019a).	-
Calamagrostis bolanderi	Bolander's reed grass	4.2	-	-	May to August	Bogs and fens, broadleafed upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps (mesic), marshes and swamps (freshwater), North Coast coniferous forest	Elev. 0 to 1,492.8 feet	Yes	**Low.** Limited suitable habitat present; species potentially could occur. Several populations found Along Tenmile Cutoff Road on Mendocino Redwood Company property, about ten miles to the northwest of the northern boundary of the BSA (CDFW 2019a).	-
Calochortus raichei	The Cedars fairy-lantern	1B.2	-	-	May to August	Closed-cone coniferous forest, chaparral (serpentinite)	On serpentine, usually on shaded slopes, but also on barrens and talus, Elev. 836.6 to 1,410.8 feet	No	**None.** Suitable serpentine habitat is absent; species not expected to occur. Nearest known location is in the Cedars, north of Cazadero, more than 20 miles east of the BSA (CDFW 2019a).	-
Calochortus uniflorus	Pink star-tulip	4.2	-	-	April to June	Coastal prairie, coastal scrub, meadows and seeps, North Coast coniferous forest	Elev. 32.8 to 3,510.5 feet	Yes	**Moderate**. Suitable habitat present; species potentially could occur. Several populations known from Stewarts Point, near PM 48, Salt Point State Park between PM 41 and 42, in the southern part of the BSA (Calflora 2019).	-
Calystegia collina ssp. *oxyphylla*	Mt. Saint Helena morning-glory	4.2	-	-	April to June	Chaparral, lower montane coniferous forest, valley and foothill grassland (serpentinite)	Open grassy or rocky places or in open oak/pine woodland, often serpentine, Elev. 915.4 to 3,313.6 feet	No	**None**. Suitable serpentine habitat is absent; species not expected to occur. Nearest known location is in the Cedars, more than 20 miles southeast of the BSA (CDFW 2019a).	-
Calystegia purpurata ssp. *saxicola*	Coastal bluff morning-glory	1B.2	-	-	(March) April to September	Coastal dunes, coastal scrub, coastal bluff scrub, North Coast coniferous forest	In rocky coastal scrub, Elev. 13.1 to 541.3 feet	Yes	**Moderate.** Suitable habitat is present; species potentially could occur. Several populations recorded from coastal grasslands in the vicinity of Stewarts Point, west of SR 1, approximately 250 feet west of the Project BSA at PM 48.32. Several populations known from Gerstle Cove and Stump Beach, Salt Point State Park, in the southern part of the BSA. Also reported 2 miles southeast of Del Mar Landing, about 3 miles northeast of the northern end of the BSA (CDFW 2019a).	-

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Campanula californica	Swamp harebell	1B.2	-	-	June to October	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (freshwater), North Coast coniferous forest	Bogs and marshes in a variety of habitats, uncommon where it occurs, Elev. 3.3 to 1,706 feet	Yes	**Moderate.** Suitable habitat is present; species potentially could occur. Occurrence 122 is mapped within the Culvert 27 BSA at PM 54.65. Several other occurrences are mapped nearby (between 70 and a few hundred feet) from the culvert BSAs along this section of SR 1 (CDFW 2019a). Other occurrences reported from 750 feet southeast of the BSA at PM 51.94, 650 feet to the northwest of PM 51.56, 900 feet to the southwest of PM 51.5, 2,100 feet to the southeast of PM 51.5, and along both sides of SR 1 between PM 48.15 and 47.7 (CDFW 2019a).	-
Carex californica	California sedge	2B.2	-	-	May to August	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, marshes and swamps (margins)	Meadows, drier areas of swamps, marsh margins, Elev. 114.8 to 1,689.6 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Occurrence 29 is known from Salt Point State Park, east of SR 1, along the Central trail, between Woodside Campground and intersection with North trail, about 1 mile east of the southern end of the BSA (CDFW 2019a).	-
Carex comosa	Bristly sedge	2B.1	-	-	May to September	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland	Lake margins, wet places, Elev. 16.4 to 3,313.6 feet	Yes	**Very Low.** Suitable habitat is present; but species is unlikely to occur. Nearest known location is a historical occurrence mapped as a "best guess" from the general vicinity of Guerneville, about 18 miles east of the southern end of the BSA (CDFW 2019a).	-
Carex saliniformis	Deceiving sedge	1B.2	-	-	May to June (July)	Coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt), Elev. 3-230 m	Mesic sites, Elev. 6.6 to 754.6 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. The nearest reported occurrence is described as about 1 mile south of the Gualala River, about 3.5 miles north of the northern end of the BSA. Documented from private property, near Leeward Road, west of SR 1 (Calflora 2019), about 2.5 miles to the northwest of the northern end of the BSA. Another occurrence is known from between SR 1 and the ocean, southwest of the southern end of Meyers Grade, about 9 miles south of the southern end of the BSA (CDFW 2019a).	-
Castilleja ambigua var. *ambigua*	Johnny-nip	4.2	-	-	March to August	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins.	Elev. 0 to 1,427.17 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Several populations recorded along this section of the coast (Calflora 2019). One population is documented at Black Point (near PM 51), and a second is known from private property at the Sea Ranch, about 2.5 miles to the northwest of the northern end of the BSA (Calflora 2019).	-
Castilleja mendocinensis	Mendocino Coast paintbrush	1B.2	-	-	April to August	Coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal prairie, coastal scrub	Elev. 0 to 524.9 feet	Yes	**Very Low.** Limited suitable habitat present; but species is unlikely to occur. One non-specific occurrence reported from the vicinity of Gualala, about 5 miles north of the northern end of the BSA. This record is based on a 1982 collection from "behind Surf Super overlooking Gualala River Headwaters." Per the CNDDB, this taxon may not occur this far south and it may be a possible mis-identification. Needs confirmation (CDFW 2019a).	-
Ceanothus gloriosus var. *exaltatus*	Glory brush	4.3	-	-	March to June (August)	Chaparral	Elev. 98.4 to 2,001.3 feet	No	**None.** Suitable chaparral habitat is not present; species is unlikely to occur. Nearest known occurrences are from north of Sea Ranch (about 4 miles north of the northern end of the BSA) and from the entrance to Salt Point State Park (Calflora 2019).	-
Ceanothus gloriosus var. *gloriosus*	Point Reyes ceanothus	4.3	-	-	March to May	Coastal bluff scrub, closed-cone coniferous forest, coastal dunes, coastal scrub (sandy)	Elev. 16.4 to 1,706 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Reported from the east side of SR 1, 2 miles southeast of Del Mar Landing, co-occurring with CNDDB Occurrence 10 of Calystegia purpurata ssp. saxicola, 3 miles northwest of the northern end of the BSA (CDFW 2019a).	-

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Ceanothus purpureus	Holly-leaved ceanothus	1B.2	-	-	February to June	Chaparral, cismontane woodland	Rocky volcanic slopes, Elev. 459.3 to 2,362.2 feet	No	**None.** Suitable rocky volcanic habitat is absent; species is not expected to occur. Nearest known occurrence is historical and non-specific, 10 miles to the southeast near Russian Gulch Creek (CDFW 2019a).	-
Chorizanthe cuspidata var. *villosa*	Woolly-headed spineflower	1B.2	-	-	May to July (August)	Coastal dunes, coastal prairie, coastal scrub (sandy)	Sandy places near the beach, Elev. 16.4 to 196.9 feet	Yes	**Very Low.** Limited suitable sandy habitat is present; species is unlikely to occur. Reported historical occurrence (from 2002) is from sandy soil in coastal prairie habitat at Salt Point State Park, in the southern part of the BSA. Record notes that more information is needed about this observation (CDFW 2019a).	-
Chorizanthe valida	Sonoma spineflower	1B.1	FE	CE	June to August	Coastal prairie (sandy)	Sandy soil, Elev. 16.4 to 164 feet	Yes	**None.** Very limited suitable sandy coastal prairie habitat is present; species is very unlikely to occur. The nearest known occurrence is a non-specific location, reported generally from Fort Ross, about 6 miles southeast of the BSA. This species has been searched for at this location but not found. Per CNDDB, it is possible that this record should be re-geolocated from Point Reyes (CDFW 2019a).	No effect
Collomia diversifolia	Serpentine collomia	4.3	-	-	May to June	Chaparral, cismontane woodland (serpentinite, rocky or gravelly)	Elev. 656.2 to 1,968.5 feet	No	**None.** Suitable serpentine, rocky, or gravelly habitat is absent; species is not expected to occur. Nearest documented populations are more than 10 miles inland from SR 1, at the Cedars, north of Cazadero, and from Armstrong Redwoods State Park, east of Cazadero (Calflora 2019).	-
Cuscuta pacifica var. *papillata*	Mendocino dodder	1B.2	-	-	(June) July to October	Coastal dunes (interdune depressions)	Elev. 0 to 164 feet	No	**None.** Suitable habitat (interdune depressions in coastal dunes) not present; species is not expected to occur. Nearest known population is from Havens Neck, about 8 miles north of the northern end of the BSA (CDFW 2019a).	-
Cypripedium californicum	California lady's-slipper	4.2	-	-	April to August (September)	Bogs and fens, lower montane coniferous forest (seeps and streambanks, usually serpentinite)	Elev. 98.4 to 9,022.3 feet	No	**None.** Suitable habitat (serpentine bogs, fens, seeps, and streambanks) not present; species is not expected to occur. Known from the Cedars, about 0.5 mile south of Layton Mine, approximately 11 miles east of the BSA (CDFW 2019a).	-
Delphinium bakeri	Baker's larkspur	1B.1	FE	CE	March to May	Broadleafed upland forest, coastal scrub, valley and foothill grassland (decomposed shale, often mesic)	Only site occurs on northwest-facing slope, on decomposed shale, historically known from grassy areas along fence lines too, Elev. 344.5 to 672.6 feet	Yes	**None.** No decomposed shale is present and the single known location is believed extirpated. For these reasons, this species is very unlikely to occur. Nearest known record is from southeast of Jenner, near Hedrin Ranch in the Coleman Valley, west of Occidental, about 21 miles southeast of the southern end of the BSA. This location is believed to be extirpated (CDFW 2019a).	No effect
Erigeron biolettii	Streamside daisy	3	-	-	June to October	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest	Rocky, mesic, Elev. 98.4 to 3,608.9 feet	Yes	**Very Low.** Limited suitable habitat is present; species potentially could occur. Known from Skaggs Spring Road/Stewarts Point Road 5.8 miles east of intersection with Annapolis Road, about 9 miles east of SR 1 and PM 48. Several other populations are known south and east of Jenner and north of Kenwood (CDFW 2019a).	-
Erigeron greenei	Greene's narrow-leaved daisy	1B.2	-	-	May to September	Chaparral (serpentinite or volcanic)	Serpentine and volcanic substrates, generally in shrubby vegetation, Elev. 295.3 to 2,739.5 feet	No	**None.** Suitable habitat (serpentine or volcanic chaparral) not present; species is not expected to occur. Known from the general vicinity of Dutch Bill Creek, about 20 miles to the southeast of the southern part of the BSA (CDFW 2019a).	-

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Erigeron serpentinus	Serpentine daisy	1B.3	-	-	May to August	Chaparral (serpentinite, seeps)	Serpentine seeps, Elev. 393.7 to 1,312.3 feet	No	**None.** Suitable habitat (serpentine seeps in chaparral) not present; species is not expected to occur. Known from Lower Middle pasture 0.25 mile north of SR 1, between Russian Gulch and Jenner Gulch, Jenner Headlands Preserve and from Upper Russian Gulch pasture near power line, about 11 miles southeast of the BSA. Also known from 0.5 mile south of Layton mine, at the Cedars, about 20 miles east of the BSA (CDFW 2019a).	-
Erigeron supplex	Supple daisy	1B.2	-	-	May to July	Coastal bluff scrub, coastal prairie	Usually in grassy sites, Elev. 16.4 to 607 feet	Yes	**Moderate.** Suitable habitat is present; species potentially could occur. Recent occurrences are documented: Occurrence 3 at PM 55.4, about 0.75 mile north of the northern end of the BSA, and Occurrence 4 from about 2,100 feet west of PM 53.1 (CDFW 2019a). Numerous historical occurrences are also reported from both sides of SR 1 between PM 49.45 and 50.0 and from Salt Point State Park, south of Horseshoe Cove, between PM 44.5 and 43.66.	-
Eriogonum cedrorum	The Cedars buckwheat	1B.3	-	-	June to September	Closed-cone coniferous forest (serpentinite)	Serpentine, barren rock and talus steep slopes, Elev. 1,197.5 to 1,804.46 feet	No	**None.** Suitable barren serpentine habitat is absent; species not expected to occur. Nearest known location is in the Cedars, more than 20 miles southeast of the BSA (CDFW 2019a).	-
Erysimum concinnum	Bluff wallflower	1B.2	-	-	February to July	Coastal dunes, coastal bluff scrub, coastal prairie	More or less a coastal generalist within coastal habitat types, Elevation 9.8 to 196.9 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. This species is known to occur in coastal scrub at Salt Point State Park, in the southern part of the BSA, and from Goat Rock State Beach, about 14 miles south of the BSA (CDFW 2019a).	-
Erysimum franciscanum	San Francisco wallflower	4.2	-	-	March to June	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland	Often serpentinite or granitic, sometimes roadsides, Elev. 0 to 1,804.5 feet	Yes	**Low.** Limited suitable habitat is present; species potentially could occur. This species is known to occur in sandy soil at the mouth of the Russian River near Goat Rock State Beach, about 14 miles south of the BSA (CDFW 2019a).	-
Erythronium revolutum	Coast fawn lily	2B.2	-	-	March to July (August)	Bogs and fens, broadleafed upland forest, North Coast coniferous forest	Mesic areas such as streambanks, Elev. 0 to 5,249.3 feet	Yes	**Low.** Limited suitable habitat is present; species potentially could occur. This species is known to occur in mesic coastal coniferous forest east of Jenner, about 14 miles south of the BSA (Calflora 2019).	-
Fissidens pauperculus	Minute pocket moss	1B.2	-	-	N/A	North Coast coniferous forest (damp coastal soil)	Moss growing on damp soil along the coast, in dry streambeds and on stream banks, Elev. 32.8 to 3,359.6 feet	Yes	**Low**. Limited suitable habitat is present; species potentially could occur. A historical occurrence is reported from near Russian Gulch, about 15 miles south of the BSA (CDFW 2019a).	-
Fritillaria roderickii	Roderick's fritillary	1B.1	-	CE	March to May	Coastal bluff scrub, coastal prairie, valley and foothill grassland	Grassy slopes, mesas, Elev. 65.6 to 2,001.3 feet	Yes	**Very Low.** Suitable habitat is present; however, species is unlikely to occur. Several occurrences (transplanted) are known from near Gualala, in Mendocino County, about 4 miles north of the northern end of the BSA. Taxonomic validity of this species has been questioned; needs further study. A synonym of F. biflora var. biflora (CDFW 2019a).	-
Gilia capitata ssp. *chamissonis*	Blue coast gilia	1B.1	-	-	April to July	Coastal dunes, coastal scrub	Elev. 9.8 to 656.2 feet	Yes	**Very Low.** Limited suitable habitat present; however, species is unlikely to occur. Occurrences in the vicinity of the Project are 1948 herbarium collections described mapped as a best guess “around 11 miles north of Bodega Bay,” about 14 miles south of the southern end of the BSA (CDFW 2019a).	-

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Gilia capitata ssp. *pacifica*	Pacific gilia	1B.2	-	-	April to August	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland	Elev. 16.4 to 4,412.7 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Reported occurrences on the western side of SR 1 near Black Point, between PM 50.65 and 50.9, and on the northern side of SR 1 approximately 3 miles south of the Project footprint. Also known from the Jenner Headlands, Muniz Ranches Road, and Russian Gulch about 14 miles south of the BSA (CDFW 2019a).	-
Gilia capitata ssp. *tomentosa*	Woolly-headed gilia	1B.1	-	-	May to July	Coastal bluff scrub, valley and foothill grassland	Rocky outcrops on the coast, serpentine, Elev. 65.6 to 410.1 feet	Yes	**Low**. Suitable habitat is present; species potentially could occur. Reported from a non-specific occurrence near Stewarts Point, in the vicinity of PM 48 in the BSA. Also known from Miller Creek Canyon in Salt Point State Park, about 800 feet southeast of the southern end of the BSA. Another occurrence is from 3.7 miles south of Fort Ross on SR 1 (CDFW 2019a).	-
Gilia millefoliata	Dark-eyed gilia	1B.2	-	-	April to July	Coastal dunes	Elev. 6.6 to 98.4 feet	No	**None.** Suitable coastal dunes habitat is not present; species is not expected to occur. Known from several occurrences in coastal dunes near Bodega Bay about 14 miles south of the southern end of the BSA (CDFW 2019a).	-
Glehnia littoralis ssp. *leiocarpa*	American glehnia	4.2	-	-	May to August	Coastal dunes	Elev. 0 to 65.6 feet	No	**None.** Suitable habitat is not present; species is not expected to occur. Known from several occurrences in coastal dunes on the beach at Salt Point State Park at the southern end of the BSA (Calflora 2019).	-
Hemizonia congesta ssp. *congesta*	Congested-headed hayfield tarplant	1B.2	-	-	April to November	Valley and foothill grassland	Grassy valleys and hills, often in fallow fields, sometimes along roadsides, Elev. 65.6 to 1,837.3 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Reported only from a collection 4 miles north of Jenner along SR 1; no recent records from this area (CDFW 2019a).	-
Hesperevax sparsiflora var. *brevifolia*	Short-leaved evax	1B.2	-	-	March to June	Coastal bluff scrub, coastal dunes, coastal prairie, sandy bluffs and flats	Sandy bluffs and flats, Elev. 0 to 2,099.7 feet	Yes	**Low.** Suitable coastal prairie habitat present; species potentially could occur. Reported non-specific occurrence present in the coastal hills that includes the Project BSAs between PM 51.75 and 52.9 (CDFW 2019a).	-
Hesperocyparis pygmaea	Pygmy cypress	1B.2	-	-	N/A	Closed-cone coniferous forest	Usually on podzol-like soil, Elev. 98.4 to 1,968.5 feet	No	**None.** Suitable habitat (podzol-like soil) not present; species is unlikely to occur. Reported southernmost occurrence is from Salt Point State Park, about 1 mile east of SR 1, and east of the southern part of the BSA on blacklock soil (CDFW 2019a).	-
Horkelia marinensis	Point Reyes horkelia	1B.2	-	-	May to September	Coastal dunes, coastal prairie, coastal scrub	Sandy areas, Elev. 16.4 to 2,477 feet	Yes	**Very Low.** Suitable habitat present; species potentially could occur. Reported non-specific occurrence from near Fish Rock Road, 2.5 miles east of SR 1, about 9 miles northwest of the northern end of the BSA (CDFW 2019a).	-
Horkelia tenuiloba	Thin-lobed horkelia	1B.2	-	-	May to July (August)	Broadleafed upland forest, chaparral, valley and foothill grassland	Sandy soils, mesic openings, Elev. 147.6 to 2,099.7 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported to co-occur with Lilium maritimum. Occurrence 72, approximately 1 mile north of Gualala, approximately 5.5 miles northwest of the northern end of the BSA (CDFW 2019a).	-

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Hosackia gracilis	Harlequin lotus	4.2	-	-	March to July	Broadleafed upland forest, coastal bluff scrub, closed-cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, valley and foothill grassland	Wetlands, roadsides, Elev. 0 to 2,296.6 feet	Yes	**Moderate.** Suitable habitat present; species potentially could occur. Reported to co-occur with Lathyrus palustris. Occurrence 10 at Sea Ranch, about 1.5 miles southeast of Del Mar Point and approximately 1 mile northwest of the northern end of the BSA (CDFW, 2019a). Several populations known to occur along the coast from Gualala south to Bodega Bay (Calflora 2019).	-
Iris longipetala	Coast iris	4.2	-	-	March to May	Coastal prairie, lower montane coniferous forest	Meadows and seeps (mesic), Elev. 0 to 1,968.5 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Known from near the Houser Bridge Road, about 1 mile north of the intersection with Kruse Ranch Road, 2.5 miles east of the BSA at PM 42 (Calflora 2019). Also recorded from Salt Point State Park, nearby the southern part of the BSA (Calflora 2019).	-
Kopsiopsis hookeri	Small groundcone	2B.3	-	-	April to August	North Coast coniferous forest	Elev. 295.3 to 2,903.5 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Recorded from Signal Ridge; west of Fish Rock road about 1.25 road miles southwest of Gualala Mountain, about 8.8 miles northwest of the northern end of the BSA (CDFW 2019a).	-
Lasthenia californica ssp. *bakeri*	Baker's goldfields	1B.2	-	-	April to October	Closed-cone coniferous forest (openings), coastal scrub, meadows and seeps	Marshes and swamps, Elev. 196.9 to 1,706 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Known from 4.5 miles north of Fort Ross, mapped as best guess by CNDDB near Walsh Landing, about 2.5 miles southeast of the southern end of the BSA. Also known from grassy fields on sea bluffs north of Fish Rock, 9.5 miles northwest of the northern end of the BSA (CDFW 2019a).	-
Lasthenia californica ssp. *macrantha*	Perennial goldfields	1B.2	-	-	January to November	Coastal bluff scrub, coastal dunes, coastal scrub	Elev. 16.4 to 1,706 feet	Yes	**Moderate.** Limited suitable habitat is present; species potentially could occur. Known from Gerstle Cove State Park, just south of Salt Point. CNDDB Occurrence 19, approximately 0.7 mile north of Windemere Point, west of SR 1, about 6 miles southeast of the southern end of the BSA. Also co-occurs with three other rare plants: Agrostis blasdalei, Hesperevax sparsiflora var. brevifolia, and Sidalcea malviflora ssp. purpurea (CDFW 2019a).	-
Lathyrus palustris	Marsh pea	2B.2	-	-	March to August	Bogs and fens, coastal prairie, coastal scrub, lower montane coniferous forest, marshes and swamps, North Coast coniferous forest (mesic), Elev. 1-100 m	Moist coastal areas, Elev. 6.6 to 459.3 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported from Sea Ranch, about 1.5 miles southeast of Del Mar Point and approximately 1 mile northwest of the northern end of the BSA (CDFW 2019a).	-
Leptosiphon rosaceus	Rose leptosiphon	1B.1	-	-	April to July	Coastal bluff scrub	Elev. 32.8 to 459.3 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported from a coastal bluff along SR 1, 2 miles north of Fort Ross, about 8 miles southeast of the BSA. This occurrence is mapped as a best guess and it needs fieldwork and confirmation (CDFW 2019a).	-
Lessingia arachnoidea	Crystal Springs lessingia	1B.2	-	-	July to October	Cismontane woodland, coastal scrub, valley and foothill grassland	Grassy slopes on serpentine, sometimes on roadsides, Elev. 295.3 to 656.2 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported from the eastern side of Bohemian Highway between Tyrone and Monte Rio, just southeast of Mt. Heller, more than 15 miles southeast of the BSA (CDFW 2019a).	-

Scientific Name	Common Name	CRPR[a]	FESA[b]	CESA[c]	Blooming Period	General Habitat	Micro-habitat, Elevation Range	Suitable Habitat in BSA/Project Footprint	Potential to Occur in BSA/Project Footprint	Effect Finding for Federally Listed Species
Lessingia hololeuca	Woolly-headed lessingia	3	-	-	June to October	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland	Clay, serpentinite, Elev. 49.2 to 1,000.7 feet	No	**None.** Limited suitable habitat is present; species unlikely to occur. Reported from 2 miles south of Monte Rio on road to Camp Meeker and Occidental (Calflora 2019), more than 15 miles southeast of the BSA.	-
Lilium maritimum	Coast lily	1B.1	-	-	May to August	Broadleafed upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, marshes and swamps (freshwater), North Coast coniferous forest (sometimes roadside)	Elev. 16.4 to 1,558.4 feet	Yes	**Moderate**. Suitable habitat is present; species potentially could occur. Several occurrences reported nearby the BSA. One occurrence is known from 500 feet southwest of the Project BSA in the vicinity of PM 51.94 to 51.7. A second occurrence is located about 2,500 feet to the east of the BSAs, between PM 50.4 and 49.9. Also known from the Bishop pine and redwood forest habitat at the western end of the Kruse Rhododendron State Preserve, 800 feet northeast of SR 1 near PM 42.65 (CDFW 2019a).	-
Lupinus tidestromii	Tidestrom's lupine	1B.1	FE	CE	April to June	Partially stabilized dunes, immediately near the ocean	Elev. 0 to 328.1 feet	No	**None.** Suitable habitat is absent; species is not expected to occur. No partially stabilized dune habitat is present in the survey area, but this species is known to occur approximately 2 miles south of the Project footprint at Goat Rock Beach (CDFW 2019a).	No effect
Lycopodium clavatum	Running-pine	4.1	-	-	June to August (September)	Lower montane coniferous forest (mesic), marshes and swamps, North Coast coniferous forest	Mesic (often edges, openings, and roadsides), Elev. 147.6 to 4,019 feet	Yes	**Low.** Limited suitable habitat is present; species potentially could occur. South of the south fork of the Gualala River, about 1 mile west, southwest of the confluence of Big Pepperwood Creek, East of Gualala, and more than 5 miles north of the northern end of the BSA (CDFW 2019a).	-
Perideridia gairdneri ssp. *gairdneri*	Gairdner's yampah	4.2	-	-	June to October	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools	Vernally mesic, Elev. 0 to 2,001.3 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Reported from Salt Point State Park (Calflora 2019) in the southern part of the BSA.	-
Piperia candida	White-flowered rein orchid	1B.2	-	-	(March) May to September	Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest	Sometimes serpentinite, Elev. 98.4 to 4,297.9 feet	Yes	**Very low.** Suitable habitat is present; species potentially could occur. Reported from several populations east and northeast of the BSA. One occurrence is mapped 300 feet above Fuller Creek, with a second located approximately 0.4 air mile north-northwest of Nob Hill, west of Fuller Mountain, both about 6.5 miles due east of PM 53. This species is also found to the north in the Gualala River Forest, along Sugar Pine Road, west of North Fork Gualala River, about 7 miles to the northeast of the northern end of the BSA (CDFW 2019a).	-
Ramalina thrausta	Angel's hair lichen	2B.1	-	-	N/A	North Coast coniferous forest (on dead twigs and other lichens)	Elev. 246.1 to 1,410.8 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Reported from Turner Canyon, 0.23 air mile southeast of confluence with the south fork of the Gualala River, about 4.1 air miles east-northeast of Fort Ross, and 9 miles southeast of the southern end of the BSA (CDFW 2019a).	-
Sidalcea calycosa ssp. *rhizomata*	Point Reyes checkerbloom	1B.2	-	-	April to September	Marshes and swamps (freshwater, near coast)	Elev. 9.8 to 246.1 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Several occurrences are known from the general vicinity of the BSA. Occurrence 13 is known from the Sea Ranch, west of SR 1 along Ramsgate Road, 0.8 to 1 air mile north of Black Point, about 0.15 mile west of PM 51.37. Occurrence 30 is west of SR 1, about 0.5 air mile north-northeast of Black Point, Sea Ranch, about 0.1 mile west of PM 50.95 (CDFW 2019a).	-
Sidalcea hickmanii ssp. *viridis*	Marin checkerbloom	1B.1	-	-	May to June	Chaparral (serpentinite)	Elev. 164 to 1,410.8 feet	No	**None.** Suitable habitat not present; species not expected to occur. Reported from 2.5 miles north of Jenner. Mapped growing along an ocean bluff along SR 1 near Russian Gulch, about 11.6 miles southeast of the BSA (CDFW 2019a).	-

Scientific Name	Common Name	CRPR[a]	FESA[b]	CESA[c]	Blooming Period	General Habitat	Micro-habitat, Elevation Range	Suitable Habitat in BSA/Project Footprint	Potential to Occur in BSA/Project Footprint	Effect Finding for Federally Listed Species
Sidalcea malachroides	Maple-leaved checkerbloom	4.2	-	-	(March) April to August	Broadleafed upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, riparian woodland	Often in disturbed areas, Elev. 0 to 2,395 feet	Yes	**Low.** Suitable habitat is present; species potentially could occur. Reported from near Del Mar Point, Sea Ranch, along the northern side of Bluff Trail on the Sea Ranch Commons, about 3 miles northwest of the northern end of the BSA (CDFW 2019a). Also known from west of SR 1 and 0.6 mile south of the Gualala River, near the Sea Ranch Golf Course (CDFW 2019a).	-
Sidalcea malviflora ssp. *purpurea*	Purple-stemmed checkerbloom	1B.2	-	-	May to June	Broadleafed upland forest, coastal prairie	Elev. 49.2 to 278.9 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Non-specific historical occurrence reported along SR 1 within the Project BSA between PM 45.0 and 43.75, and from Gerstle Cove, north of Moon Rocks at Salt Point State Park, near the southern part of the BSA. Also known from near Windmere Point and Northwest Cape, west of SR 1, about 5.5 miles southeast of the southern end of the BSA (CDFW 2019a).	-
Streptanthus glandulosus ssp. *hoffmanii*	Hoffman's bristly jewelflower	1B.3	-	-	March to July	Chaparral, cismontane woodland, valley and foothill grassland	Moist, steep rocky banks, in serpentine and non-serpentine soil, Elev. 196.9 to 2,509.8 feet	No	**None.** Suitable moist steep rocky bank habitat not present; species unlikely to occur. Found mostly on serpentine, which is not present. Also known from non-serpentine. Only nearby occurrence is based on a 1948 herbarium collection from “Russian Gulch, 8 miles south of Fort Ross,” about 8 miles southeast of the southern end of the BSA (CDFW 2019a).	-
Streptanthus morrisonii ssp. *elatus*	Three Peaks jewelflower	1B.2	-	-	June to September	Chaparral (serpentinite)	Elev. 295.3 to 2,673.9 feet	No	**None.** Suitable serpentine chaparral habitat not present; species not expected to occur. Known from serpentine outcrops in the Austin Creek State Recreation Area, about 12 miles east-northeast of the southern end of the BSA (CDFW 2019a).	-
Streptanthus morrisonii ssp. *hirtiflorus*	Dorr's Cabin jewelflower	1B.2	-	-	June	Closed-cone coniferous forest, chaparral	Serpentine, Elev. 607 to 2,690.3 feet	No	**None.** Suitable serpentine chaparral habitat not present; species not expected to occur. Known from the Cedars, north of Cazadero, headwaters of Big Austin Creek and East Austin Creek, about 11.4 miles northwest of the southern end of the BSA (CDFW 2019a).	-
Streptanthus morrisonii ssp. *morrisonii*	Morrison's jewelflower	1B.2	-	-	May, August, September	Chaparral	Serpentinite, rocky, talus, Elev. 393.7 to 1,919.3 feet	No	**None.** Suitable serpentine chaparral habitat not present; species not expected to occur. Known from serpentine outcrops in the Austin Creek State Recreation Area, about 12 miles east-northeast of the southern end of the BSA (CDFW 2019a).	-
Trifolium amoenum	Two-fork clover	1B.1	FE	-	April to June	Coastal bluff scrub, valley and foothill grassland	Sometimes serpentinite, Elev. 16.4 to 1,361.6 feet	Yes	**None.** Suitable habitat present, but species is very unlikely to occur. Reported from north of Bodega, 0.9 mile southeast of Sugarloaf, off of Fitzpatrick Road, 0.6 mile south of junction with Docs Ranch Road, more than 20 miles southeast of the southern end of the BSA (CDFW 2019a). Also reported from Coleman Valley Road, 5 miles west of Occidental, and 20 miles southeast of the southern end of the BSA.	No effect
Trifolium buckwestiorum	Santa Cruz clover	1B.1	-	-	April to October	Broadleafed upland forest, cismontane woodland, coastal prairie	Gravelly, margins, Elev. 344.5 to 2,001.3 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported from Bodega Head and Dunes, along King Ridge Road, Cazadero, about 11 miles to the east of the southern end of the BSA (CDFW 2019a).	-
Usnea longissima	Methuselah's beard lichen	4.2	-	-	N/A	Broadleafed upland forest, North Coast coniferous forest	On tree branches, usually on old growth hardwoods and conifers, Elev. 164 to 4,790 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported from southeast of Monte Rio, about 0.3 air mile southeast of summit of Mt. Heller, more than 15 miles southeast of the BSA (CDFW 2019a).	-

Scientific Name	Common Name	CRPR[a]	FESA[b]	CESA[c]	Blooming Period	General Habitat	Micro-habitat, Elevation Range	Suitable Habitat in BSA/Project Footprint	Potential to Occur in BSA/Project Footprint	Effect Finding for Federally Listed Species
Veratrum fimbriatum	Fringed false-hellebore	4.3	-	-	July to September	Bogs and fens, coastal scrub, meadows and seeps, North Coast coniferous forest	Mesic, Elev. 9.8 to 984.3 feet	Yes	**Low.** Suitable habitat present; species potentially could occur. Reported to occur within an Erigeron supplex. Occurrence 21, a few hundred feet from two culvert study areas between PM 54.1 and 54.2. Known from Salt Point State Park; along SR 1, road, and trails up to 1 mile south and 0.7 mile east of Woodside Campground, about 1 mile east of the southern end of the BSA (CDFW 2019a).	-

Notes:

Many special-status plant species known to occur in Sonoma County are associated with serpentine soil. Serpentine soil is not present in the BSA, and these serpentine endemic species are not expected to occur.

CRPR 4 plants (plants of limited distribution) may warrant consideration under CEQA Guidelines Section 15380 and may be considered special-status species on a case-by-case basis (CDFW 2018a).
CDFW requires that information on CRPR 3 and 4 plants be submitted to the CNDDB; therefore, these species have also been included.
- = not applicable

CRPR = California Rare Plant Rank

N/A = not applicable

[a] CNPS California Rare Plant Rank:

1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 Plants for which we need more information - Review list

4 Plants of limited distribution - Watch list

[b] FESA designations are as follows:

FE = Federal Endangered Species

[c] CESA designations are as follows:

CE = State Endangered
CR = State Rare Species

CNPS Threat Ranks:

1 Seriously threatened in California
2 Moderately threatened in California
3 Not very threatened in California

Sources: Calflora 2019; CDFW 2019a, CNPS 2019, USFWS 2019

Table E-2 Special Status Wildlife Species Within Five Miles of BSA

Scientific Name	Common Name	USFWS[a]/CDFW[b]	General Habitat	Micro-habitat	Potential to Occur	Potential Effects on Federally Listed Species
Fishes						
Acipenser medirostris	Green sturgeon (Southern DPS)	FT/SSC	Abundance increases northward of Point Conception, spawns in the Sacramento River at temperatures between 46.4 and 57.2°F.	Preferred spawning substrate is large cobble but can range from clean sand to bedrock.	**No Potential.** Does not occur in the BSA and habitat is not suitable (Appendix E).	No effect
Eucyclogobius newberryi	Tidewater Goby	FE/-	Brackish water habitats along the California coast from Agua Hedionda lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Brackish water habitats along the California coast from Agua Hedionda lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	**None.** No CNDDB records within 5 miles of BSA, and no suitable habitat is present in the streams and drainages where culvert work will take place.	No effect
Oncorhynchus kisutch	Coho salmon (Central California Coast ESU)	FE/SE	Federal Listing: Populations between Punta Gorda and San Lorenzo River. State Listing: Populations south of Punta Gorda. Require beds of loose, silt-free coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen.	Federal Listing: Populations between Punta Gorda and San Lorenzo River. State Listing: Populations south of Punta Gorda. Require beds of loose, silt-free coarse gravel for spawning. Also need cover, cool water, and sufficient dissolved oxygen.	**Low.** Spawning and presence are not documented in the CNDDB nor is critical habitat designated within the BSA, but there is potential that coastal streams in the vicinity of the BSA have suitable spawning and rearing habitat (Appendix E).	No effect
Oncorhynchus mykiss irideus	Steelhead (Central California Coast DPS)	FT/-	From Russian River, south to Soquel Creek and to, but not including, Pajaro River.	From Russian River, south to Soquel Creek and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	**None.** Project footprint does not overlap with the boundaries of this DPS (Appendix E).	No effect
Oncorhynchus mykiss	Steelhead (Northern California Coast DPS)	FT/SSC	Coastal basins from Redwood Creek to Gualala River inclusive. Does not include summer-run steelhead.	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	**Low.** Spawning and presence are not documented in the CNDDB, nor is critical habitat designated within the BSA, but there is potential that coastal streams in the vicinity of the BSA have suitable spawning and rearing habitat (Appendix E).	No effect
Oncorhynchus tshawytscha	Chinook salmon (California coastal ESU)	FT/-	Federal listing refers to wild spawned, coastal, spring and fall runs between Redwood Creek, Humboldt County, and Russian River, Sonoma County.	Federal listing refers to wild spawned, coastal, spring and fall runs between Redwood Creek, Humboldt County, and Russian River, Sonoma County.	**Low.** Spawning and presence are not documented in the CNDDB, nor is critical habitat designated within the BSA, but there is potential that coastal streams in the vicinity of the BSA have suitable spawning and rearing habitat (Appendix E).	No effect
Spirinchus thaleichthys	Longfin smelt	CT/ST	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay.	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Seldom found at salinities greater than 10 parts per thousand. Most often at salinities less than 2 parts per thousand.	**None.** Does not occur in the vicinity and habitat is not suitable.	No effect
Amphibians						
Ascaphus truei	Pacific tailed frog	-/SSC	The range of this frog in California is from near Anchor Bay, Mendocino county, north along the coast to the Oregon Border and as far east as near Big Bend, Shasta County.	Inhabits cold, clear, permanent rocky streams in wet forests. They do not inhabit ponds or lakes. A rocky streambed is necessary for protective cover for adults, eggs, and larvae. After heavy rains, adults may be found in the woods away from the stream.	**None.** Does not occur in the vicinity and habitat is not suitable	-

Scientific Name	Common Name	USFWS[a]/CDFW[b]	General Habitat	Micro-habitat	Potential to Occur	Potential Effects on Federally Listed Species
Dicamptodon ensatus	California giant salamander	-/SSC	Wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages.	Endemic to California, found in two, possibly three isolated regions, from Mendocino County near Point Arena east into the Coast Ranges into Lake and Glenn Counties, south to Sonoma and Marin Counties, continuing south of the San Francisco Bay from San Mateo County to southern Santa Cruz County.	**Moderate.** Suitable habitat located within the Project footprint. Some potential for individuals to occur under rocks and logs and in soil crevices within the Project footprint.	-
Rana boylii	Foothill yellow-legged frog	-/SSC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	**Low to Moderate.** FYLF is known to occur in several creeks in the vicinity of the Project, and suitable non-breeding FYLF habitat is present throughout the BSA. Although breeding habitat consisting of low-gradient, relatively open-canopy areas along perennial streams with rocky substrates was absent from the anticipated work sites, such areas are present nearby, and FYLF dispersal from these areas into the work locations could occur (Appendix F).	-
Rana draytonii	California red-legged frog	FT/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11 to 20 weeks of permanent water for larval development and must have access to estivation habitat.	**Low to Moderate.** Suitable CRLF upland, dispersal, and non-breeding aquatic habitat is present in the BSA. Although no known occurrences were identified within the frog's maximum known dispersal distance of about 2 miles, confirmed sightings are known from less than 4 miles away with no significant barriers to movement. It should be assumed that the CRLF may occur in the BSA (Appendix F).	May affect, likely to adversely affect
Taricha rivularis	Red-bellied newt	-/SSC	Occurs along the coast from near Bodega, Sonoma County to near Honeydew, Humboldt County, and inland to Lower lake and Kelsey Creek, Lake County.	A stream or river dweller. Found in coastal woodlands and redwood forest along the coast of northern California. Larvae retreat into vegetation and under stones during the day.	**Low.** Less than marginally suitable habitat present in BSA.	-
Reptiles						
Chelonia mydas	Green sea turtle	FT/-	Requires beaches for nesting, open ocean for convergence zones, and coastal areas for "benthic" feeding. Occurs in pantropical portions of the Atlantic, Pacific, and Indian oceans but can occur in higher latitudes in conjunction with above-normal sea temperatures. Nesting occurs on sandy beaches primarily along islands and other undeveloped, less exposed areas.	Absent.	**None**. No suitable habitat in BSA or in vicinity of the Project limits.	No effect
Emys marmorata	Western pond turtle	-/SSC	Ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.3 mile from water for egg laying.	**Low.** No occurrences within 5 miles of Project limits. Less than marginally suitable habitat present in BSA.	-
Birds						
Ammodramus savannarum	Grasshopper sparrow	-/SSC	Grasslands, prairies, hayfields, and open pastures with little to no scrub cover and often with some bare ground.	Can tolerate some brushy habitat but avoid areas that are too overgrown.	**Low.** No occurrences within 5 miles of Project limits. Less than marginally suitable habitat present in BSA.	
Brachyramphus marmoratus	Marbled murrelet	FT/-	Breeds in coniferous forests near coasts, nesting on large horizontal branches high up in trees. Winters at sea.	Dense stands of tall conifers.	**Low to Moderate.** There is extensive conifer habitat in the BSA. Some work falls into MAMU critical habitat (Appendix G).	May affect, not likely to adversely affect

Scientific Name	Common Name	USFWS[a]/CDFW[b]	General Habitat	Micro-habitat	Potential to Occur	Potential Effects on Federally Listed Species
Charadrius alexandrinus nivosus	Western snowy plover	FT/SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes.	Needs sandy, gravelly, or friable soils for nesting.	**None**. No suitable habitat in BSA. Nearest known live occurrence was approximately 27 miles south of BSA at Bodega Harbor Spit, Bodega Bay, in the 1960s.	No effect
Fratercula cirrhata	Tufted puffin	-/SSC	Open ocean.	Nests along coastal islands, islets, and sometimes mainland cliffs.	**Low**. No occurrences within 5 miles of Project limits. No suitable habitat in BSA.	-
Pelecanus occidentalis californicus	California brown pelican	DL/SSC	Colonial nests on coastal islands just outside surf line.	Absent.	**None.** No suitable habitat in BSA or in vicinity of the Project limits.	-
Phoebastria albatrus	Short-tailed albatross	FE/-	Breeds on rocky coastal offshore Pacific Rim islands.	Nests in sandy areas on islands. Spends nonbreeding season on open ocean.	**None.** No suitable habitat in BSA or in vicinity of the Project limits.	No effect
Riparia riparia	Bank swallow	-/ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	Requires vertical banks or cliffs with fine-textured or sandy soils near streams, rivers, lakes, and ocean to dig nesting hole.	**Low.** No habitat present in the BSA, may occur as overhead migrant.	-
Strix occidentalis caurina	Northern spotted owl	FT/ST	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees.	High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris, and space under canopy.	**Low to Moderate.** Multiple culvert work locations are in potentially suitable habitat or within 0.25 mile of potential suitable habitat. Known locations are in the vicinity of the Project (Appendix G).	May affect, likely to adversely affect
Mammals						
Aplodontia rufa nigra	Point Arena mountain beaver	FE/-	Northern coastal scrub, coastal bluff scrub, northern riparian scrub, northern dune scrub, freshwater seep, north coast riparian, and closed-cone conifer forest.	Only found within a disjunct, 24-square-mile area in western Mendocino County, California.	**None.** Outside of species range.	No effect
Arborimus pomo	Sonoma tree vole	-/SSC	Occurs in forests with Douglas fir, redwoods, and montane hardwoods in the North Coast fog belt from the Oregon border to Sonoma County.	Feeds almost exclusively on Douglas fir needles; will occasionally take needles of grand fir, hemlock, or spruce.	**Low to Moderate.** Suitable habitat is present in BSA. Known locations are in the vicinity of the Project.	-
Arctocephalus townsendi	Guadalupe fur seal	FT/-	Breeds on Isla de Guadalupe off of Mexico, occasionally found on San Miguel, San Nicolas, and San Clemente islands.	Prefers shallow, near-shore island water, with cool and sheltered rocky areas for haul-outs.	**None.** No suitable habitat in the BSA.	No effect
Balaenoptera borealis	Sei whale	FE/-	Prefer subtropical to subpolar waters on the continental shelf edge and slope worldwide.	Usually observed in deeper waters of oceanic areas far from the coastline.	**None.** No suitable habitat in the BSA.	No effect
Balaenoptera musculus	Blue whale	FE/-	Found worldwide, from sub-polar to sub-tropical latitudes.	Although found in coastal waters, they are thought to occur generally farther offshore than other whales.	**None.** No suitable habitat in the BSA.	No effect
Balaenoptera physalus	Finback whale	FE/-	Found in deep, offshore waters of all major oceans.	Primarily in temperate to polar latitudes, and less commonly in the tropics.	**None.** No suitable habitat in the BSA.	No effect
Eubalaena glacialis	Northern right whale	FE/-	Coastal waters.	Most known nursery areas are in shallow, coastal waters.	**None.** No suitable habitat in the BSA.	No effect

Scientific Name	Common Name	USFWS[a]/CDFW[b]	General Habitat	Micro-habitat	Potential to Occur	Potential Effects on Federally Listed Species
Corynorhinus townsendii	Townsend's big-eared bat	-/CT	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls and ceilings. Roosting sites extremely sensitive to human disturbance.	**Low.** Multiple recorded observations of Townsend's big-eared bat are present within 5 miles of the BSA; however, suitable Townsend's big-eared bat roost habitat is marginal and they are unlikely to establish a colony within the BSA. Overall, the culverts provide little to no cavity roost habitat, and large tree cavities were absent from the BSA. Although unlikely, a few culverts were large enough to provide Townsend's big-eared bat roost habitat and may be used on occasion by bats moving through the area. (Appendix G)	-
Megaptera novaeangliae	Humpback whale	FE/-	Calving grounds are commonly near offshore reef systems, islands, or continental shores. Feeding grounds are in cold, productive coastal waters.	During migration, humpbacks stay near the surface of the ocean. While feeding and calving, they prefer shallow waters. During calving they are usually found in the warmest waters available at that latitude.	**None.** No suitable habitat in the BSA.	No effect
Orcinus orca	Southern resident killer whale	FE/-	Most abundant in colder waters, including Antarctica, Norway, and Alaska. However, they can also be fairly abundant in temperate waters.	They can also occur, although at lower densities, in tropical, subtropical, and offshore waters.	**None.** No suitable habitat in the BSA.	No effect
Physeter catodon (=macrocephalus)	Sperm whale	FE/-	Tend to inhabit areas with a water depth of 1,968 feet (600 m) or more, and are uncommon in waters less than 984 feet (300 m) deep.	Females are generally found in deep waters (at least 3,280 feet or 1,000 m) of low latitudes (less than 40 degrees, except in the North Pacific where they are found as high as 50 degrees). These conditions generally correspond to sea surface temperatures greater than 59°F, and while females are sometimes seen near oceanic islands, they are typically far from land.	**None.** No suitable habitat in the BSA.	No effect
Taxidea taxus	American badger	-/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils, and open uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Low.** There is potentially suitable habitat present in BSA. However, potential is low because of shallow groundwater and saturated conditions in the immediate work space at each culvert location.	-
Arthropods						
Bombus occidentalis	Western bumble bee	-/Candidate Endangered	Once common and widespread in western North America, species has declined precipitously from central California to southern B.C., perhaps from disease.	Recent studies suggest that populations of this species are largely restricted to high elevation sites of the Sierra Nevada and the northern coast of California south of the Oregon border.	**Low.** Less than marginally suitable habitat present in BSA.	-
Haliotis cracherodii	Black abalone	FE/-	They generally occur in areas of moderate to high surf. However, when immersed or during night time, they have been observed using their muscular feet to move freely over rock surfaces.	During low tides, they can typically be found wedged into crevices, cracks, and holes of intertidal and shallow subtidal rocks, where they are fairly concealed.	**None.** No suitable habitat in the BSA.	No effect
Lycaeides argyrognomon lotis	Lotis blue butterfly	FE/-	Coastal location in Mendocino, Sonoma, and possibly Marin Counties.	Associated with wet meadows and sphagnum willow bogs.	**Low.** No suitable habitat present within BSA. One population was discovered in 1935, north of the town of Mendocino (CDFW 2019a).	No effect

Scientific Name	Common Name	USFWS[a]/CDFW[b]	General Habitat	Micro-habitat	Potential to Occur	Potential Effects on Federally Listed Species
Speyeria zerene behrensii	Behren's silverspot butterfly	FE/-	Coastal locations between Point Arena, Mendocino County to Salt Point State Park, Sonoma County.	Associated with coastal terrace prairie, stabilized sand dunes, and grassland habitats with larval foodplant, *Viola adunca.*	**Unknown.** Surveys for *Viola adunca* will be conducted prior to construction to confirm absence. Nearest known historical occurrence is approximately 30 miles northwest of BSA at Point Arena. Other occurrences are considered extirpated (CDFW 2019a).	May affect, not likely to adversely affect.
Speyeria zerene myrtleae	Myrtle's silverspot butterfly	FE/-	Restricted to areas immediately adjacent to the coast: dunes, scrub, and grasslands.	Is now only known from a few sites in northern Marin County. The eggs are laid only on species of Viola, possibly only *Viola adunca*.	**Unknown.** Surveys for *Viola adunca* will be conducted prior to construction to confirm absence. Nearest known extant occurrence was observed in 1975 approximately 20 miles southeast of BSA on State Park Road at Goat Rock (CDFW 2019a), which is the northernmost occurrence of species.	May affect, not likely to adversely affect.
Syncaris pacifica	California freshwater shrimp	FE/SE	Shallow pools away from main stream flows.	Winter: undercut banks with exposed roots; summer: leafy branches touching waters.	**None.** No suitable habitat present within BSA (CDFW 2019a).	No effect

Notes:
°F = degree(s) Fahrenheit
- = not applicable
DPS = Distinct Population Segment
ESU = Evolutionarily Significant Unit
[a] USFWS designations are as follows:
CT = Candidate Threatened
DL = Delisted
FE = Endangered (any species in danger of extinction throughout all or a significant portion of its range)
FT = Threatened (any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range)
[b] CDFW designations are as follows:
CT = Candidate Threatened
SE = Endangered (any species at risk of becoming extinct in all or a significant portion of its range)
SSC = Species of Special Concern
ST = Threatened (any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range)
Sources: California Natural Diversity Database (CDFW 2019a), NMFS species list (NMFS 2019), Information, Planning and Consultation (USFWS 2019a)

Appendix F Responses to Comments Received on Draft Initial Study with Proposed Negative Declaration

CDFW Comment Memorandum Page 1

State of California
Department of Fish and Wildlife

Flex your POWER

Memorandum

Date: March 6, 2020

To: Ms. Elizabeth Nagle
California Department of Transportation
District 4
111 Grand Avenue
Oakland, CA 94612

From: Mr. Gregg Erickson, Regional Manager
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: Sonoma 1 Culvert Rehabilitation Project – North, Initial Study/Negative Declaration, SCH #2020020415, Sonoma County

The California Department of Fish and Wildlife (CDFW) received a Notice of Completion of an Initial Study/Negative Declaration (IS/ND) from the California Department of Transportation (Caltrans) for the Sonoma 1 Culvert Rehabilitation Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is a Trustee Agency pursuant to CEQA Section 15386 and has authority to comment on projects that could impact fish, plant or wildlife resources. CDFW is also considered a Responsible Agency under CEQA Section 15381 if a project requires discretionary approval, such as permits issued under the California Endangered Species Act (CESA), Lake and Streambed Alteration (LSA) Program, and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources.

REGULATORY REQUIREMENTS

California Endangered Species Act
CESA prohibits unauthorized take of candidate, threatened, and endangered species. Therefore, if take[1] of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) is warranted (pursuant to Fish and Game Code Section 2080 *et seq.*). Issuance of a CESA ITP is subject to CEQA documentation; therefore, the CEQA document should specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the proposed Project will

[1] Fish and Game Code §86: "Take" means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

CDFW Comment Memorandum Page 2

impact any CESA-listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required to obtain a CESA ITP. More information on the CESA permitting process can be found on the CDFW website at https://www.wildlife.ca.gov/Conservation/CESA.

Lake and Streambed Alteration
CDFW requires an LSA Notification, pursuant to Fish and Game Code section1600 et. seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement (or ITP) until it has complied with CEQA as a Responsible Agency.

Migratory Birds and Raptors
CDFW also has jurisdiction over actions that may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code Sections protecting birds, their eggs, and nests include 3503 (regarding unlawful take, possession or needless destruction of the nests or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird). Fully protected species may not be taken or possessed at any time (Fish and Game Code Section 3511). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

PROJECT DESCRIPTION SUMMARY

Proponent: California Department of Transportation, District 4

Objective: The Project proposes to replace 27 existing or failed culverts at various locations along State Route (SR) 1 in Sonoma County from post mile (PM) 41.2 to 54.6 that were determined to have deficiencies and require replacement to prevent further damage and possible failure of SR-1.

Location: The Project is located along SR-1 in Sonoma County in the State of California from PM 41.2 to 54.6 from 0.2 miles north of Miller Creek in Salt Point State Park to 0.1 miles north of Vantage Road within the community of Sea Ranch.

Environmental Setting: The 8.78-acre Biological Study Area (BSA) contains portions of the highway prism, developed bare ground, potential waters of the U.S., and the following vegetation types: *Baccharis pilularis* alliance, native and non-native perennial coastal grasslands, western North American freshwater marsh macro-group, *Pinus muricata* alliance, Eucalyptus semi-natural alliance, *Sequoia sempervirens* alliance, Vancouverian coastal riparian scrub, Vancouverian riparian deciduous forest, southwestern North American riparian wash scrub, *Hesperocyparis macrocarpa* semi-natural alliance, and non-native shrubs.

Seventy-three (73) native and non-native tree species are within the BSA, forty-one (41) of which are proposed for trimming or removal. Special-status species with the potential to occur in or near the Project area include: northern spotted owl (*Strix occidentalis caurina*), State

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Endangered; marbled murrelet (*Brachyramphus marmorotus*), State Threatened; Sonoma tree vole (*Arborimis pomo*), Species of Special Concern (SSC); foothill yellow-legged frog (FYLF) – northwest/north coast clade (*Rana boylii*), SSC; California giant salamander (*Dicamptodon ensatus*), SSC; western pond turtle (*Actinemys marmorata*), SSC; nesting birds and roosting bats. Suitable habitat for special-status plant species such as coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*), swamp harebell (*Campanula californica*), supple daisy (*Erigeron supplex*), short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia)*, coast lily (*Lilium maritimum*), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), and fringed false-hellebore (*Veratrum fimbriatum*) were determined to be present in the BSA.

COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations below to assist Caltrans in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

Project Impacts

1 The Biological Resources section of the IS/ND does not adequately describe the individual impacts occurring at each Project location and the cumulative impacts of the Project as a whole. The IS/ND does provide information on impacts to certain habitat types and individual species habitat types such as California red-legged frog (CRLF) and northern spotted owl (NSO) but does not provide a site-specific reference as to which Project locations contain this habitat. CDFW recommends that a table of the overall impacts is provided in the updated environmental document broken down by temporary and permanent impacts to specific habitat types. CDFW also recommends that Table 2-2 on page 2-9 is used as a template for a site-specific impacts table that denotes potential habitat type impacts for specific habitat types down into temporary and permanent impacts per culvert location. Maps such as the ones provided after page 2-11 of the IS/ND may also be a useful tool to describe the site-specific impacts to habitat types at each culvert location.

Tree Removal

2 Page 3-22 of the IS/ND describes the potential number of trees contained with the BSA at 71 trees and notes that 41 of those trees have the potential to be trimmed or removed as a result of the Project. Page 3-22 and AMM-BIO-14 note that the 71 trees were determined as individuals larger than 4 inches diameter at breast height (DBH), there is no CDFW requirement to determine a tree as a tree based on DBH. Therefore, it is recommended that AMM-BIO-14 removes the reference to 4 inches DBH or greater and that an updated survey is conducted to determine what trees exist throughout the Project locations that were not initially included in the IS/ND because they were less than 4 inches DBH. In addition, the IS/ND did not provide a tree inventory that notes tree species type, DBH and tree health status. CDFW recommends the updated IS/ND includes an updated tree inventory. Maps such as the ones provided after page 2-11 of the IS/ND may also be a useful tool to describe the site-specific tree removal or trimming impacts.

Rock Slope Protection (RSP) and Filter Fabric

3 Page 2-5 of the IS/ND and Figure 2-3 on page 45 of the .PDF file for "Typical Rock Slope Protection Cross Section" illustrates the use of filter fabric (Class 8 – RSP Fabric) under fields of RSP. CDFW recommends that filter fabric is not employed as method of erosion control as it has the potential to prevent larger woody vegetation and trees from taking root in riparian and upland areas and has the potential to prevent wildlife from creating burrows in and around the field of RSP. In addition, CDFW considers the placement of filter-fabric, geo-textile and RSP as

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a permanent impact and if these types of materials were not initially determined as permanent. The updated IS/ND should note those changes in the impacts section described previously in this memorandum.

3 cont.

CDFW recommends updating the Mitigation Measure AMM-BIO-3 to incorporate the following language into the existing measure to reduce potential impacts to less-than-significant for sensitive habitats such as riparian habitat:

> Mitigation Measure AMM-BIO-3: Proper Use of Erosion Control Devices. Plastic monofilament netting (i.e., erosion control matting), rock slope protection filter fabric, geo-textile or similar material will not be used. Acceptable substitutes would include coconut coir matting or tackifying hydroseeding compounds.

Northern Spotted Owl

The Biological Resources section of the IS/ND identifies NSO as a potential sensitive species and states that suitable NSO habitat is present within the Project area on page 3-16. NSO is a threatened species pursuant to CESA and the federal Endangered Species Act (ESA). The Project proposes to remove potential NSO habitat and cause noise related construction activities at the Project site that could potentially disturb NSO during nesting season and interrupt breeding or lead to nest failure. Population levels and vital rates for NSO continue to decline[2], so any reduction in successful nesting is a potentially significant impact.

4

CDFW recommends updating the Mitigation Measure AMM-BIO-7 to incorporate the following language into the existing measure to reduce potential impacts to NSO to less-than-significant:

> Mitigation Measure AMM-BIO-7: Occupied Northern Spotted Owl Habitat. If Project activities will occur during the NSO nesting season (February 1 to July 31), then a CDFW-approved Qualified Biologist shall conduct surveys for NSO following the U.S. Fish and Wildlife Service's (USFWS) *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls,* dated (Revised) January 9, 2012[3]. Surveys shall be conducted in accordance with section 9 of the survey protocol, *Surveys for Disturbance-Only Projects.* If NSO are detected during surveys, Project activities within 0.25 miles of a nest site shall be avoided until the end of the breeding season or until a Qualified Biologist determines the nest is no longer active. A Qualified Biologist should be familiar with NSO ecology, have proven success identifying NSO aurally and visually, and have at least two seasons of experience surveying for NSO using the USFWS protocol.
>
> If Project-generated sound will not exceed ambient nest conditions by over 20 decibels *and* total combined sound (ambient and Project-generated) during Project activities does not exceed 90 decibels, then noise impacts would likely be less-than-significant and surveys may not be necessary (USFWS 2006[4]). Pre-Project sound conditions should be accurately

[2] California Department of Fish and Wildlife. 2016. Report to the Fish and Game Commission: A Status Review of the Northern Spotted Owl (*Strix occidentalis caurina*) in California. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=116307&inline

[3] United States Fish and Wildlife Service's (USFWS) *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls,* dated (Revised) January 9, 2012 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83977&inline

[4] United States Fish and Wildlife Service. 2006. Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California.

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4 cont.

measured and documented to justify a no-survey outcome and the method of sound monitoring to determine if levels exceed 90 decibels should be adequately described to allow CDFW to comment on the methods.

If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) is warranted (pursuant to Fish and Game Code Section 2080 *et seq.*).

Marbled Murrelet

5

The Biological Resources section of the IS/ND identifies marbled murrelet as a potential sensitive species and states that suitable habitat is present within the Project area on page 3-18. Marbled murrelet is an endangered species pursuant to CESA and listed as threatened under ESA. The Project proposes to remove potential marbled murrelet habitat and cause noise related construction activities at the Project site that could potentially disturb marbled murrelet during nesting season and interrupt breeding or lead to nest failure. Population levels and suitable habitat for marbled murrelet continue to decline[5], so any reduction in successful nesting or suitable habitat is a potentially significant impact.

CDFW recommends updating the Mitigation Measure AMM-BIO-9 to incorporate the following language into the existing measure to reduce potential impacts to NSO to less-than-significant:

AMM-BIO-9 – Occupied Marbled Murrelet Habitat. If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) is warranted (pursuant to Fish and Game Code Section 2080 *et seq.*).

Special-Status Plants

6

The IS/ND identifies suitable habitat for special-status plants that have the potential to occur in the vicinity of the Project area on page 3-14 of the Biological Resources section but notes that no findings of special-status plants have occurred. Page 3-14 also notes that protocol level surveys were not conducted. CDFW recommends that acceptable botanical surveys must be systematic, floristic surveys, and should occur multiple times within the blooming period of potential special-status plants on-site. Based on the IS/ND, it is difficult to conclude that special-status plants are absent. Potentially significant impacts to special-status plants, such as crushing and burying, are more likely to occur without sufficient survey information.

CDFW recommends updating the Mitigation Measure AMM-BIO-1 to reduce potential impacts to special-status plants to less-than-significant:

Mitigation Measure AMM-BIO-1: Special-Status Plant Surveys. A Qualified Biologist shall conduct a survey during the appropriate blooming period for all special-status plants that have the potential to occur on the Project site the season prior to the start of construction. Surveys should be conducted following *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities*, prepared by

https://www.fws.gov/arcata/es/birds/MM/documents/MAMU-NSO%20Harassment%20Guidance%20NW%20CA%202006Jul31.pdf

[5] The Cooper Ornithological Society, 2012. Recent Population Decline of the Marbled Murrelet in the Pacific Northwest. Sherri L. Miller et. al.
https://www.biologicaldiversity.org/species/birds/marbled_murrelet/pdfs/Miller_et_al_2012_murrelet_decline.pdf

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6 cont.

CDFW, dated March 20, 2018[6]. If special-status plants are found during surveys, the IS/MND should outline how the Project would be re-designed to avoid impacts to special-status plants to the greatest extent feasible. If impacts to special-status plants cannot be avoided completely during construction, the IS/ND should outline adequate compensatory mitigation.

A Qualified Biologist in this context should be knowledgeable about plant taxonomy, familiar with plants of the region, and have experience conducting botanical field surveys according to vetted protocols.

If take of any species listed under CESA cannot be avoided either during Project activities or over the life of the Project, a CESA Incidental Take Permit (ITP) is warranted (pursuant to Fish and Game Code Section 2080 *et seq.*).

7

ENVIRONMENTAL DATA
CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). The CNNDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be submitted online or emailed to CNDDB at the following email address: cnddb@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals

FILING FEES
The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION
CDFW appreciates the opportunity to comment on the IS/ND to assist Caltrans in identifying and mitigating Project impacts on biological resources. If you have any questions, please contact Mr. Robert Stanley, Senior Environmental Scientist (Specialist), at (707) 428-2093 or Robert.Stanley@wildlife.ca.gov; or Mr. Craig Weightman, Environmental Program Manager at Craig.Weightman@wildlife.ca.gov.

cc: State Clearinghouse (SCH #2020020415)

[6] https://www.wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants

Responses to CDFW Comment Memorandum

Response to Comment 1

Caltrans acknowledges CDFW's comment to describe the individual impacts occurring at each Project location, and to describe the cumulative impacts of the Project as a whole. Caltrans' intent of Biological Resources section within the Initial Study (IS) is to summarize the findings made by the natural environmental study (NES), prepared in support of the Project. The IS provides the level of detail necessary to allow the reader to understand the overall level of impact of the Project to biological resources, leaving site-specific information appropriately within the NES. Caltrans has provided CDFW staff Robert Stanley the NES prepared for the Project via email on October 12, 2020, which includes tables and figures for temporary and permanent impacts at each Project location, for special-status wildlife species addressed within the IS. The NES also contains a table that summarizes overall Project-related impacts that are anticipated to occur to Natural Communities of Special Concern.

Response to Comment 2

Caltrans notes CDFW's suggestion to provide an evaluation of all trees, regardless of diameter at breast height (DBH). Through survey work conducted for this project, Caltrans has determined that trees with a minimum of two inches DBH is an appropriate threshold for this Project analysis as young trees have shown a natural mortality before they reach two inches DBH, with survival improving and less variability of die off with a DBH over two inches. The Avoidance and Minimization Measure for tree and shrub replacement planting has been updated from four inches to two, to accurately reflect the DBH threshold used during survey work. (Chapter 3, Section IV. Biological Resources, Avoidance and Minimization Measure BIO-14 Tree Planting). Additionally, the NES provides the requested mapping of trees, including species type, occurring within the biological study area (BSA) of the Project.

Response to Comment 3

Caltrans acknowledges CDFW's suggestion and has updated the Avoidance and Minimization Measure regarding acceptable and unacceptable materials for erosion control matting in the IS as recommended (Chapter 3, Section IV. Biological

Resources, Avoidance and Minimization Measure BIO-3 Proper Use of Erosion Control Devices).

Response to Comment 4

Caltrans acknowledges CDFW's recommendation to update the Avoidance and Minimization Measure for Northern Spotted Owl (NSO) that incorporates language to reduce potential impacts to NSO and has updated the IS as recommended (Chapter 3, Section IV. Biological Resources, AMM BIO-7 Occupied Northern Spotted Owl Habitat). Additionally, please refer to Response to Comment number eight from the California Coastal Commission in the following letter, for justification of employing a 131-ft buffer for human activities occurring from any known NSO nest.

Response to Comment 5

Caltrans acknowledges CDFW's recommendation to update the Avoidance and Minimization Measure for marbled murrelet that incorporates language to reduce potential impacts to marbled murrelet and has updated the IS as recommended (Chapter 3, Section IV. Biological Resources, AMM BIO-9 Occupied Marbled Murrelet Habitat).

Response to Comment 6

Caltrans acknowledges CDFW's recommendation to conduct protocol-level surveys for special-status plant species that have the potential to occur within the vicinity of the Project area. Accordingly, the Avoidance and Minimization Measure for pre-construction surveys of rare plants has been updated within the IS to reduce potential impacts to special-status plants to less than significant (Chapter 3, Section IV. Biological Resources, AMM BIO-1 Pre-construction Surveys for Rare Plants).

Response to Comment 7

Caltrans notes CDFW's request to report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDB). It is Caltrans practice for biological staff to submit CNDDB entries when special-status species are detected during Project surveys.

CCC Comment Letter Page 1

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY GAVIN NEWSOM, GOVERNOR

CALIFORNIA COASTAL COMMISSION
NORTH CENTRAL COAST DISTRICT OFFICE
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
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March 20, 2020

Arnica MacCarthy, Branch Chief
Office of Environmental Analysis
California Department of Transportation – District 4
111 Grand Avenue, MS:8B
Oakland, CA 94612

Subject: Sonoma 1 Culvert Rehabilitation Project – North
EA 04-1K750/0416000309, SON-1-PM 41.2-54.6

Dear Ms. MacCarthy:

Thank you for the opportunity to provide comments on the CEQA document Draft Initial Study with Proposed Negative Declaration for the Sonoma 1 Culvert Rehabilitation Project – North (04-1K750/0416000309, SON-1-PM 41.2-54.6). The project proposes to replace 27 culverts at various locations along an approximately thirteen-mile stretch of Highway 1 in Sonoma County from north of Salt Point Park to north of Sea Ranch. The project appears to be entirely within an area governed by the Sonoma County Local Coastal Program (LCP) and therefore the standard of review for Coastal Development Permit (CDP) authorization in this case are the policies of the Sonoma County LCP. However, the project is within our appeals jurisdiction and therefore subject to potential appeals to the Commission. Commission staff provided prior comments on this project in a letter dated September 5, 2019 and we are attaching that letter here for information as some of those comments have been addressed but others still relevant. In this letter, we would like to provide some additional comments that are likely relevant for CDP authorization and/or a potential appeal to the Commission.

Sonoma County State Route 1 Repair Guidelines

We appreciate that the Proposed Negative Declaration document references and that the project will follow the provisions of the 2019 Sonoma County State Route 1 Repair Guidelines developed by the Commission, Caltrans, and Sonoma County. Compliance with these provisions should address several of the concerns expressed in our September 5, 2019 letter related to public access, bicycle access, coastal view protections, and grading. Consistent with those guidelines, we anticipate that the Transportation Management Plan discussed on pages 3-55 to 3-56 of the Proposed Negative Declaration will protect through bicycle access and minimize public access impacts during construction.

1

SLR & Climate Change Related Impacts

As we noted in page 4 of our September 5, 2019 letter, it is unclear if any of the culverts in the project are potentially subject coastal flooding or coastal erosion issues related to Sea Level Rise.

2

CCC Comment Letter Page 2

2 cont. This Proposed Negative Declaration document does not discuss SLR or include a conclusion that SLR issues are not a concern. This should be clarified going forward and if any discussion is necessary please follow the guidance given in the Commission's Adopted Sea Level Rise Policy Guidance updated in 2018, as described in the prior letter.

3 Additionally, as noted before, there is no analysis in the Proposed Negative Declaration document of the potential implications of increased storm run-off associated with climate change related increases in storm frequency or intensity. The 2018 District 4 Caltrans Climate Change Vulnerability Assessment recognizes the threat of increased precipitation events (see, e.g., the Technical Report for the Assessment p. 10 and Chapter 8, pp. 49-51). It appears many of the proposed culvert replacements are of increased size, but do those larger sizes account for increased water flows from potential more significant storm events, and are the culverts unchanged in size sufficient to account for these climate change related impacts?

4 As a related issue, the Proposed Negative Declaration document describes a few measures to reduce greenhouse gas (GHG) emissions associated with construction. The document states that because the construction activities are short-term, there are no long-term adverse GHG effects. Given the cumulative nature of GHG accumulation in the atmosphere, this appears to be a faulty conclusion. The mitigation measures also seem perfunctory. We would encourage the project to adopt more stringent GHG reduction strategies consistent with the numerous state legislation and executive order requirements to reduce GHG emissions. The project could, for instance, encourage the use of zero-emission vehicles, hybrids, ride-sharing, or public transportation for commuting workers; use battery storage devices or generators in construction to reduce the use of idling equipment with GHG emissions; include specific measures in the Transportation Management Plan to reduce idling motorists during single-lane closures; and adopt on-site or off-site mitigation measures (e.g. carbon sequestering plantings) to reduce cumulative GHG emissions overall.

Biological Resources – Vegetation Clearance

The Proposed Negative Declaration document describes vegetation clearance, grubbing, and tree removal, including the clearance of native vegetation. The document describes the replacement of grasses and shrubs removed during construction through reseeding, and replacement tree planting through a five-year plant establishment period (PEP) for areas within State Parks land and otherwise a one-year PEP for all other affected locations.

5 It appears that the Proposed Negative Declaration document considers the vegetation and tree removal to be temporary impacts with 1:1 replanting and 1-year establishment periods appropriate. Please note, however, that this is not consistent with typical requirements under the Coastal Act. The Commission has historically considered temporary impacts to be those where 1) there is no significant ground disturbance (i.e. earthwork including grading that disturbs seedbank); and 2) vegetation recovers to comparable size/age class within 12 months from the initial disturbance. All other impacts are considered permanent. For example, the language on p. 2-10 reads: "Grasses and shrubs removed during construction would be replaced by seeding using locally native species to revegetate disturbed areas after construction." However, in most

CCC Comment Letter Page 3

5 cont.

cases shrubs are not going to recover to the pre-existing age class within one year from seed and therefore these impacts should be considered permanent. Permanent coastal impacts require additional mitigation and longer establishment and monitoring periods.

Similarly, the provision for a one-year PEP for tree replanting appears inconsistent with Coastal Act and LCP protections. The nature of plant establishment does not change across the lines of land ownership. The PEP should be a consistent five years for all trees, to provide confidence in replacement across a period of more variable conditions. Tree removal also needs to include protections for bird nesting, including survey protocols and buffers during the nesting season (Feb 15-Sept 1). Such surveys also need to extend beyond the BSA (which is limited to 20-ft beyond the project footprint), out to 500-ft to ensure that the project does not disturb raptors.

6

The project should also specify that all revegetation efforts be done with native species appropriate for the location and using seed (and/or planting specimens) that maintain the genetic integrity of the area. Seed mixes will need to have species ratios appropriate for the local area.

7

Finally, at the CDP phase of this project, the vegetation communities will need to be specifically analyzed to determine which communities would be considered Environmentally Sensitive Habitat Areas (ESHA) under the Coastal Act and LCP. Development in ESHA areas requires specific findings to be approvable and may require additional protective conditions or mitigation measures. Vegetation areas with more than ten percent natives would be considered areas of ESHA, as would many riparian areas, native tree areas, wetland marshes, or other areas that support rare or endangered plant or animal species.

Biological Resources – Sensitive Species Mitigation Measures

8

AMM BIO-7. This mitigation measures describes a 131-foot buffer from any known Northern Spotted Owl nest. This is far too narrow for such a sensitive and protected raptor. Commission staff would expect no less than 300-ft buffers for such nesting animals. The measures here also allow for construction generating sound levels of an additional 20db above ambient conditions and maximum sound levels up to 90db. There is no given analysis or basis provided in the document for why the 20db above ambient conditions and maximum sound levels are necessary or acceptable in this case. Commission staff typically limit maximum noise be maintained below 60db at any sensitive receptor location. Furthermore, if construction requirements make these sound levels infeasible, there should be an analysis of alternatives that could reduce the sound, such as placing sound barriers (or blinds, for visual intrusion of the barrier) to reduce noise impacts to acceptable levels. Moreover, there is no analysis in this document of the expected duration and frequency of sound (and visual) disturbances or listed descriptions of efforts to minimize noise and visual impacts along those criteria.

9

AMM BIO-4 & 5. For both frog species, there should be a daily inspection prior to work startup to ensure that animals are not under wheels of equipment, etc. Also, any open ground deeper than 12-inches should be covered at the end of the work day so that animals are not at-risk of becoming trapped.

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10 **AMM BIO-9.** As above in AMM BIO-7, given the sensitivity and need for protection of marbled murrelet reproduction, the 131-foot buffer and acoustic criteria are not protective enough. Please see our comments above. Additionally, this section includes more specific protective measures for the tail of the nesting season in Section 2(b). Please provide additional explanation for why these measures are adopted only for this later time-period and not the entire nesting window.

11 **AMM BIO-11 & 12.** These provisions should not only include *viola adunca*, but specifications that if the species is found, a survey is conducted for *Myrtle's Silverspot* and *Behren's Sivlerspot* butterfly foraging species. If the forage species are also present, then that area needs to be protected.

12 **AMM BIO-13**. For tree voles, please clarify the basis of employing only a 30-foot buffer, particularly for a nocturnal species that would be resting during daytime work hours. This would seem to be insufficient for many of the same issues cited above for other species (i.e. sound and visual cues).

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

Sincerely,

Peter Allen
Senior Transportation Program Analyst

cc: Stephanie Rexing, Coastal Commission
Abigail Black, Coastal Commission
Jennifer Faso, Sonoma County Planning Division
Cecily Condon, Sonoma County Planning Division

Responses to CCC Comment Memorandum

Response to Comment 1:

Caltrans acknowledges the California Coastal Commission's (CCC) comment regarding protection of through bicycle access and minimization of public access impacts during construction. AMM TRANS-1 requiring the development of a Traffic Management Plan (TMP) has been updated to ensure consistency with the Sonoma 1 Guidelines and the protection of bicycle through access, and the overall minimization of public access impacts that have the potential to occur during construction (Chapter 3, Section XVII. Transportation and Traffic, AMM TRANS-1 Develop a Transportation Management Plan).

Response to Comment 2:

Caltrans acknowledges CCC's request for additional information to be included in the IS regarding flooding risk and potential sea level rise concerns. Caltrans technical specialists determined that the outfall elevations of the 27 culverts included in this Project are not subject to tidal influence either currently or in the most conservative estimate of future sea-level rise outlined in the *State of California Sea-Level Rise Guidance, 2018 Update* (California Ocean Protection Council 2018). A statement regarding why sea level rise is not a concern for this Project has been included in the IS, in Chapter 3, Section X. Hydrology and Water Quality.

Response to Comment 3:

Caltrans acknowledges CCC's comment regarding the increase for stormwater runoff potential associated with climate change at the culvert replacement locations. Caltrans has not considered increased storm runoff potential associated with climate change in its determination of proposed culvert sizes because of the following policies and guidelines:

- Caltrans *Highway Design Manual* (HDM) establishes uniform policies and procedures for the design of state highways. HDM Topic 818.3 addresses stationarity and climate variability. Stationarity assumes that the past accurately represents the future. Climate change presents a challenge to the validity of this assumption; however, until a multidisciplinary consensus is reached on future trends, stationarity continues to be used by Caltrans.

- The 2018 District 4 Caltrans Climate Change Vulnerability Assessment presents an assessment "of how changes to traditional climate variables (precipitation and

temperature) would be anticipated to change traditional design practices" (Caltrans 2018). It provides a framework to guide Caltrans District 4 staff in evaluating and prioritizing projects based on climatic stressors (e.g. precipitation, sea level rise, storm surge) when considering climate change effects on the Caltrans District 4 State Highway System and other Caltrans assets.

During the Project design phase, Caltrans will evaluate the proposed culvert sizes in light of potential implications of increased storm run-off and install appropriately sized culverts at each location.

Response to Comment 4:

The California Environmental Quality Act (CEQA) requires a lead agency to make a good faith effort to identify impacts and gives that agency discretion on the approach to analyze those impacts. While linking the direct impacts of a proposed Project to the global greenhouse gas (GHG) effects on a cumulative scale to climate change is outside of the purview of Caltrans' implementing regulations. Caltrans indicates its commitment to reducing GHGs by outlining both short- and long-term GHG reduction strategies, as discussed in the IS. This Project would rehabilitate deteriorated drainage systems along SR 1 and is not a capacity-increasing project. Section 2.3.4 provides for traffic management and work windows to minimize congestion and reduce idling of vehicles during construction. In addition, the following Project Features and AMMs provide for revegetation of disturbed soils, protection of existing trees and shrubs, and control measures for GHGs:

- Chapter 3, Section I. Aesthetics, AMM AES-1: Revegetate Disturbed Areas Upon Completion of Construction.
- Chapter 3, Section I. Aesthetics, Project Feature AES-2: Avoid Unnecessary Removal of Vegetation.
- Chapter 3, Section VIII. Greenhouse Gas Emissions : Project Feature GHG-1: Control Measures for Greenhouse Gases.

Response to Comment 5:

Caltrans acknowledges CCC's comment regarding establishment periods for revegetation, and temporary versus permanent impacts to vegetation as a result of Project construction. The IS has been updated to include a conservative estimate for Plant Establishment Periods (PEP) based on CCC's recommendation. Any

revegetation installations that cannot recover to a comparable size within one year of the initial disturbance will require the establishment of a follow up that includes a PEP of up to five years "to provide confidence in replacement [planting] across a period of more variable conditions". (Chapter 3, Section I. Aesthetics, AMM AES-1 Revegetate Disturbed Areas Upon Completion of Construction). As Project refinements are made during the design phase, Caltrans staff will continue to coordinate with the CCC regarding revegetation requirements.

Response to Comment 6:

Caltrans agrees with CCC's comment that the revegetation work required as a result of the Project should be completed with native species appropriate for the location and using seed (and/or planting specimens) that maintain the genetic integrity of the area, to the maximum extent possible. The IS has been updated accordingly (Chapter 3, Section I. Aesthetics, AMM AES-1 Revegetate Disturbed Areas Upon Completion of Construction).

Response to Comment 7:

Caltrans notes CCC's comment that during the permitting phase of this Project, vegetation communities will need to be specifically analyzed to determine which communities would be considered Environmentally Sensitive Habitat Areas (ESHA) under the Coastal Act and LCP. Caltrans will continue to coordinate with CCC for the submittal of the Coastal Development Permit to ensure that ESHAs are appropriately outlined within the application.

Response to Comment 8:

Caltrans acknowledges CCC's comment concerning buffers and sound levels for the Northern Spotted Owl (NSO). Caltrans is assuming that the forested habitat within the Project footprint is suitable roosting habitat for NSO. There is suitable nesting habitat within 0.25 mile of the Project footprint, but greater 330 ft from the Project Footprint (PF).

For clarification, Caltrans is committing to restricting project activities during the NSO nesting season (February 1-July 31st) at locations that are potentially suitable habitat for roosting (PMs 41.22, 41.52, 41.56, 41.65, 42.11, 42.36, 42.41, 42.93, 43.37, 43.44, 51.52, 51.56, 54.30, 54.48, and 54.65). This is 15 out of 27 work locations.

Caltrans will also adhere to no human activity in a 131-foot buffer from any known NSO nest per the AMM for NSO (from the Programmatic LOC between USFWS and Caltrans District (D) 1 and 2 and in our Biological Assessment [USFWS 2014]) listed below.

- Chapter 3, Section IV. Biological Resources, AMM BIO-7: Occupied Northern Spotted Owl Habitat

Caltrans has committed to restricting work at the locations adjacent to or within the forested habitat to between July 31 and October 31, outside of NSO nesting season. Additionally, there is no nesting habitat for NSO or marbled murrelet (MAMU) within the PF (suitable nesting trees are not present). There is potential nesting habitat within 0.25 mile (1320 ft) of the PF for NSO, however beyond 330ft from PF.

Caltrans conducted a follow up noise analysis for impacts to potential nesting NSO within 0.25 mile of the PF.

AMM BIO-7 is taken directly from the US Fish and Wildlife Service (USFWS) Programmatic informal consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2 of April 9, 2014. The covered activities for that program include the repair, retrofitting and replacement of culverts using heavy equipment such as excavators, bulldozers, graders, and dump trucks, and therefore would have similar impacts to the this (04-1K750) Project. The 20 dBA above ambient maximum mitigation measure was documented in the USFWS 2006 guidance document.

Each culvert location could require up to 5 days of work. Using values provided in Table 1 (USFWS 2006) below: Based on the typical highway noise at 50 feet of 70 decibels (Corbisier 2003), we can assume that the ambient pre-project sound levels are moderate (71-80 decibels) during the day and very low (51-60 decibels) at night. Then, considering that the estimated noise levels of all equipment listed (excavator, backhoe, compactor, dump truck, concrete truck, saw cutting machines, Table 2), the anticipated action-generated sound levels would be high (81-90 decibels). Since work will be conducted during the day and at night, we adjusted the ambient pre-project sound levels to very low since the amount of traffic on Hwy 1 is assumed to be greatly reduced at night.

Since anticipated construction-generated sound levels are high (81-90 decibels) the estimated harassment distance for noise is 100 meters or 330 feet, per Table 1 (USFWS 2006). Based on the habitat assessment from the BA, habitats within 330 feet of the work locations do not contain physical or biological features (PBFs) for NSO or MAMU. Therefore, based on the estimated harassment distance, noise levels generated by construction activities will not rise to the level of harassment within potentially suitable NSO or MAMU nesting habitats.

Table 1. Estimated harassment distance due to elevated action-generated sound levels for proposed actions affecting the northern spotted owl and marbled murrelet, by sound level.

Existing (Ambient) Pre-Project Sound Level (dB) [1,2]	Anticipated Action-Generated Sound Level (dB) [2,3]	Anticipated Action-Generated Sound Level (dB) [2,3]	Anticipated Action-Generated Sound Level (dB) [2,3]	Anticipated Action-Generated Sound Level (dB) [2,3]
	Moderate (71 to 80)	**High (81 to 90)**	**Very High (91 to 100)**	**Extreme (101 to 110)**
"Natural Ambient" [4] (<=50)	50 (165) [5,6]	150 (500)	400 (1,320)	400 (1,320)
Very Low (51 to 60)	0 (0)	100 (330)	250 (825)	400 (1,320)
Low (61 to 70)	0 (0)	50 (165)	250 (825)	400 (1,320)
Moderate (71 to 80)	0 (0)	50 (165)	100 (330)	400 (1,320)
High (81 to 90)	0 (0)	50 (165)	50 (165)	150 (500)

[1] Existing (ambient) sound level includes all natural and human-induced sounds occurring at the project site prior to the proposed action, and are not causally related to the proposed action.

[2] See text for full description of sound levels.

[3] Action-generated sound levels are given in decibels (dB) experienced by a receiver, when measured or estimated at 15.2 m (50 ft) from the sound source.

[4] "Natural Ambient" refers to sound levels generally experienced in habitats not substantially influenced by human activities.

[5] All distances are given in meters, with rounded equivalent feet in parentheses.

[6] For murrelets, activities conducted during the dawn and dusk periods have special considerations for ambient sound level. Refer to text for details.

Table 2. Typical sound levels associated with construction equipment.
Available at: https://www.nrc.gov/docs/ML1805/ML18059A141.pdf

Equipment	Spec. 721.560 Lmax @ 50 feet (dBA, slow)	Estimated Lmax at 0.25 mile
Excavator	85	56.57
Backhoe	80	51.57
Compactor	80	51.57
Dump truck	84	55.57
Concrete truck	85	56.57
Saw cutting machines	90	61.57

Caltrans has included an AMM to address nighttime lighting:

- Chapter 3, Section I. Aesthetics, AMM AES-2 Nighttime lighting

Response to Comment 9:

Caltrans agrees with CCC's comment regarding adding additional protective measures for both the Foothill yellow-legged frog and the California red-legged frog species. The IS has been updated as recommended (Chapter 3, Section IV. Biological Resources, AMM BIO-5 Surveys for California Red-legged Frog).

Response to Comment 10:

Caltrans notes the CCC's comment regarding acceptable buffers and sound levels for the marbled MAMU. As stated above in response to comment number eight, Caltrans has committed to restricting work at the locations adjacent to or within the forested habitat to between July 31 and October 31. This work window should be effective in avoiding both NSO and MAMU's breeding season when construction-related disturbance of active nests due to noise, artificial lighting, and increased human activity would be a primary concern.

Because of the absence of suitable MAMU nesting habitat within 330 feet of proposed construction activities (estimated sound harassment distance for the Project activities) the construction activities at these locations would be able to proceed without rising to the level of harassment due to noise as explained under previous comment number eight.

Regarding the more specific protective measures found in Section 2(b) for MAMU, Caltrans refers to the AMMs for MAMU that are outlined in the Programmatic Letter of Concurrence with USFWS and Caltrans D1 and D2 for NSO and MAMU (USFWS 2014). However, without further explanation from the USFWS regarding the work window described under 2(b), Caltrans will drop this portion of AMM BIO-9 from the IS and adhere to the stricter work window of restricting work at the locations adjacent to or within the forested habitat to between July 31 and October 31. (Chapter 3, Section IV. Biological Resources, AMM BIO-9 Occupied Marbled Murrelet Habitat).

Response to Comment 11:

Caltrans accepts CCC's comment to include language in the IS that allows for additional protection of the Myrtle's silverspot and Behren's silverspot butterflies. The AMMs for the two foraging species has been updated accordingly (Chapter 3, Section IV. Biological Resources, AMM BIO-12 Minimize Impacts to *Viola adunca,* MSB and BSB).

Response to Comment 12:

The Sonoma tree vole's (STV) general habitat consists of the North Coast fog belt from the Oregon border to Sonoma County, in Douglas fir, redwood, and montane hardwood-conifer forests (CDFW 2019a). It most frequently occurs in forests consisting predominantly of Douglas fir trees and subsists almost exclusively on needles of these trees. However, STV also live where Douglas fir co-occurs with other species, including redwood, tanoak, Sitka spruce, western hemlock, or grand fir (Chinnici et al. 2012). This project would result in nearly 0.251 acre of temporary impacts to potential STV habitat and 0.002 ac of permanent impacts to potential STV habitat spread out at numerous locations throughout the proposed project.

The Sonoma tree vole is primarily arboreal and nocturnal, and activity is restricted to the trees in which it lives (Adam and Hayes 1998). Sonoma tree voles are highly dependent on Douglas firs, as they feed on fir needles and use them to build their nests (NatureServe 2020). As such, they spend most of their lives in the fir trees. Unless the host tree is directly impacted, construction activities are not anticipated to have a substantial direct effect on Sonoma tree voles. Caltrans has identified three Douglas fir trees that are within the project footprint boundary. Of these three, none are in the same locations and none are expected to be removed.

Based on further analysis of the work zone and the high variability of the nature of the work areas; Caltrans has determined that a 30-ft buffer from active nests is not practicable. This portion of AMM BIO-13 will be dropped from the IS. Instead, Caltrans will require the qualified biologist to conduct a preconstruction survey of the Project work areas to determine if there are active and or inactive STV nests. Any nests detected during the surveys will be recorded and mapped in relation to the construction disturbance footprint. The on-site Biologist will work with the contractor to avoid impacting the species to the maximum extent practicable (Chapter 3, Section IV. Biological Resources, AMM BIO-13 Preconstruction Surveys for Sonoma Tree Vole).

Potential impacts to the species could cause stress and result in temporary changes in behavior and would be short in duration (5 days of construction per location). Additionally, if the voles are disturbed, they would be expected to move up the tree to avoid disturbance. Avoidance and minimization avoiding host trees to the maximum extent practicable, will reduce potential adverse stress on the species. Overall impacts are expected to be minimal.