Sonoma 1 Culvert Rehabilitation Project - North

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

Draft Initial Study with Proposed Negative Declaration

Prepared by the
State of California, Department of Transportation

February 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.

What you should do:

- Please read this document.
  - Additional copies of this document and the related technical studies are available for review at:

    California Department of Transportation, District 4
    111 Grand Avenue
    Oakland, CA 94612

    United States Post Office
    60 Sea Walk Dr,
    Sea Ranch, CA 95947
    (707) 785-4245

    Ocean Cove General Store
    23125 Coast Highway 1
    Walsh Landing, CA 95450
    (707) 847-3422

  - This document may be accessed electronically at the Caltrans District 4 website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs)

- Send comments, including requesting that Caltrans hold a public meeting, by March 20, 2020, deadline, as follows:
  - Via postal mail to:

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

  - Via email to: Arnica.MacCarthy@dot.ca.gov

What happens next:

Per CEQA Section 15073, Caltrans will circulate the Initial Study with Proposed Negative Declaration for review for 30 days. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and will respond to the comments after the 30-day public review period.

After comments have been received from the public and reviewing agencies, Caltrans may:

1) grant environmental approval to the proposed Project,
2) conduct additional environmental studies, or
3) abandon the Project

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

Alternative Formats:

For individuals with sensory disabilities, this 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.

Initial Study with Proposed Negative Declaration

04-SON-1	41.2/54.6	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) 286-7195
Project location:	Sonoma County, California
General plan description:	Highway
Zoning:	Transportation Corridor
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*

Additional copies of this document, as well as technical studies this document relies on, are available for review at the Caltrans District 4 office, 111 Grand Avenue, Oakland, CA 94612, or online at http://www.dot.ca.gov/d4/envdocs.htm.

Stefan Galvez-Abadia
District Division Chief,
Division of Environmental Planning and Engineering
Caltrans, District 4

2/4/2020
Date

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Proposed Negative Declaration

Project Description

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

This Proposed Negative Declaration is included to provide notice to the public and reviewing agencies that Caltrans intends to adopt a Negative Declaration for this Project. This Negative Declaration is subject to change based on comments received by the public and reviewing agencies.

Caltrans has prepared an Initial Study for this Project and, pending public review, expects to determine that the proposed Project would not have a significant effect on the environment for the following reasons:

The proposed Project would have no impact on 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 proposed 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.

_____ _____

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

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 Proposed Negative Declaration.

The proposed 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 to preserve the structural integrity of SR 1 and ensure public safety.

1.3 Need

The Project is needed to replace 27 existing damaged or failed culverts that were determined to have deficiencies and require replacement to prevent further damage and possible failure of SR 1. 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 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 at 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 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 and consists of two 11-foot-wide lanes with 0- to 1-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 rusting linings, deteriorating flare ends, inadequate pipe sizes, erosion of upstream and downstream banks, and debris built-up. The original scope of the Project included rehabilitation of 26 locations, however 2 of the locations (PM 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 3 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 area 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 by 22 arch	40	corrugated steel pipe arch (CSPA)	• Replace with a 40-foot-long CSPA that is 21 feet wide with a height of 15 feet. • 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.
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.

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
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 with a height of 30 inches connecting 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
14	49.64	18	35	CSP	• Replace with a 40-foot-long pipe that is 35 inches wide with a height of 24 inches. • New RSP at downstream end. • Grading at downstream end.

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
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, • Remove tree at upstream 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 with a height of 24 inches. • Grading upstream and downstream ends to improve entrance into pipes
18	53.15	12	35	RCP	• Replace with a 35-foot-long CSPA that is 21 inches wide with a height of 15 inches. • Grading at upstream and downstream end 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	52x32	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 with a height of 33 inches. • Grading to re-establish ditch on northbound end. • Grading downstream.
22	53.67	18”x12”	40	CSPA	• Abandon existing pipe. • Remove existing HW. • New 40-foot-long CSPA that 28 inches wide with a height of 20 inches located south of the existing pipe. • Grading at upstream and downstream ends.

Location	Postmile	Existing Diameter (inch)	Existing Length (feet)	Existing Type*	Proposed Rehabilitation Strategies
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	12 and 18	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 entrance and outlet.
27	54.65	12 and 12	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. Fabric or gravel is then 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 such that a blend of local soil and fine compost would be placed in the 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 5 culverts (PMs 42.36, 42.41, 53.34, 53.67, 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 pressures, to control erosion and scour from high water velocities, and to prevent adjacent soil from sloughing into the waterway and culvert opening. Headwalls also

confine pipe segments to prevent joint separation which may lead to leaks into the soil around the culvert. Approximate headwall dimensions are 9-feet wide by 5-feet high, with a 5-foot-deep base.

Flared End Section: Flared end sections, proposed at 3 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 2 culverts (PMs 42.11, and 43.37), an existing drainage inlet would be replaced. In addition, a new drainage inlet with an inlet junction structure would be constructed downstream. No other locations have or need 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 for 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, HW and FES 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 diversion during construction would be implemented as needed. If stream diversion is determined to be necessary, methods would be finalized during the design phase.

2.3.2 Utilites Relocation

A fiber optic cable owned by Frontier Communications is buried approximately 1 foot deep 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 electrical overhead lines that run along or near SR 1, and some

underground electrical conduits in the small communities along SR 1. No water or sewer 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, and are incorporated into 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 0 to 1-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 work 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

19 of the locations will require areas outside Caltrans right of way to access the culverts. 5 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). 9 Permanent Drainage Easements (PDEs) are also proposed for the Project for portions of culvert 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 (square feet)	PDE West/East of roadway (square feet)
1	41.22	300 west	
3	41.56	100 west	
4	41.65	200 west	
6	42.36	100 west	
7	42.41	200 east + 250 west	250 west
8	42.93	100 west	
11	48.32	200 west	200 west
12	49.33	750 west	750 west

Location	Postmile	TCE West/East of roadway (square feet)	PDE West/East of roadway (square feet)
13	49.5	450 east + 1,050 west	450 east + 1,050 west
14	49.64	600 west	600 west
15	51.52	750 west	750 west
16	51.56	225 west	225 west
17	51.94	450 east + 200 west	450 east
18	53.15	1,050 west	
19	53.34	100 east + 100 west	
20	53.59	300 east + 375 west	
22	53.67	150 west	
23	54.06	225 west	225 west
25	54.26	200 west	

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 biological study area (BSA), 41 of which are within the Project footprint. 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 breast height (DBH) greater than 4 inches that are removed will be replaced at the following ratios: 3:1 for native trees and 1:1 for non-native trees. 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 would be replaced by seeding using locally native species to revegetate disturbed areas after construction. Areas of RSP would be covered with topsoil (blended local soil and fine compost) and would be seeded using locally native species. It is anticipated that replacement tree planting would include either a 5-year plant establishment period (PEP), for areas within State Parks land, or 1-year PEP for all other affected locations. For 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

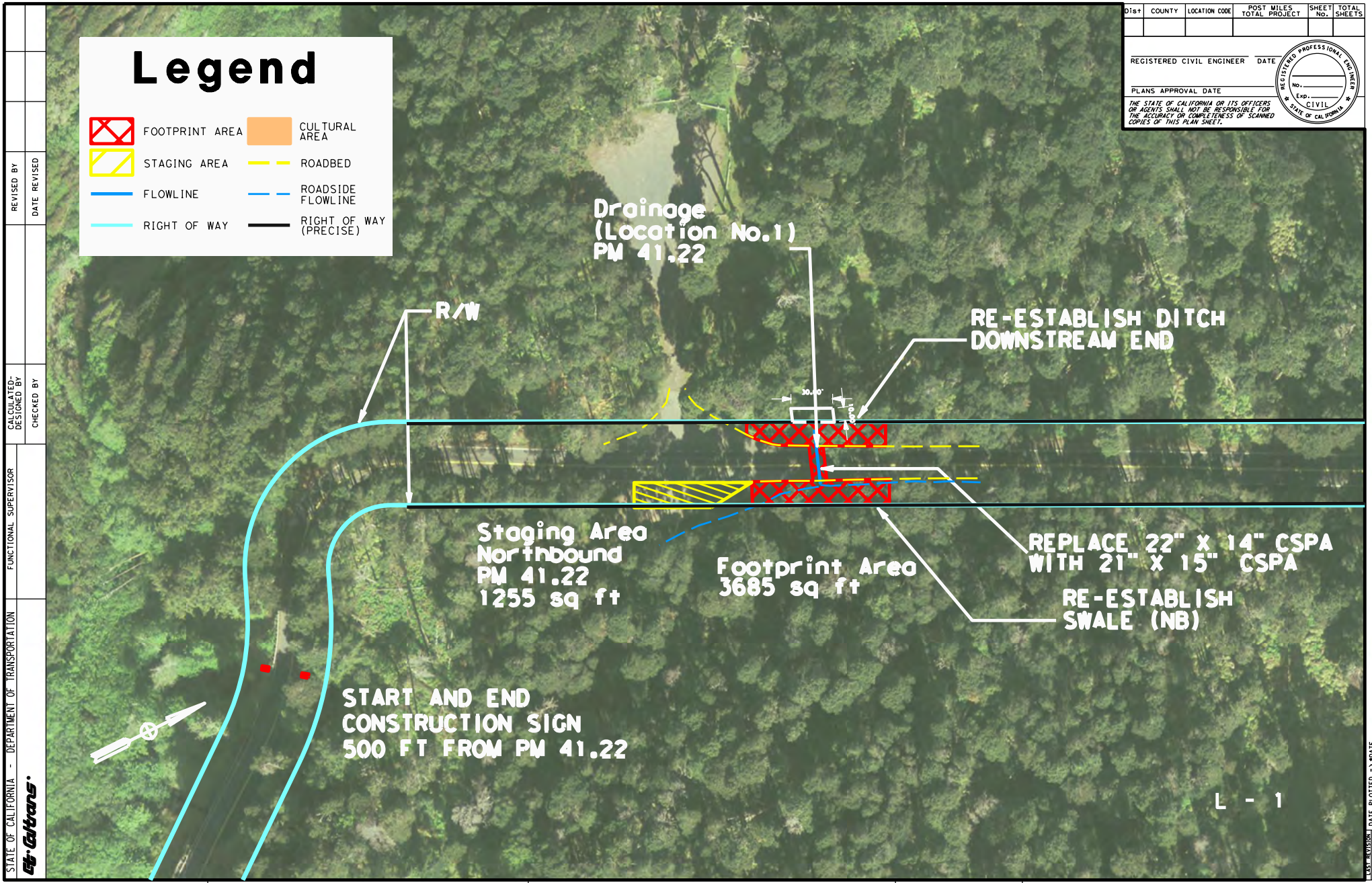
PEP period as needed. The alignment of new or replaced down drains would be adjusted during the design phase to reduce impact to trees and vegetation.

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

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REVISED BY | DATE REVISED

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FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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USERNAME => $USER
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TIME PLOTTED => $TIME

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

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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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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Caltrans

USERNAME => $USER

RELATIVE BORDER 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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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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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)

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

Drainage (Location No.5) PM 42.11

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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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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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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GRADE DOWNSTREAM

Drainage
(Location No.6)
PM 42.36

Footprint Area
2705 sq ft

0.00'

30.00'

R/W

RSP

REPLACE 18" CSP
WITH 18" CSP

PLACE HW UPSTREAM

Drainage
(Location No.7)
PM 42.41

15.00'

25.00'

Footprint Area
800 sq ft

20.00'

10.00'

REPLACE 18" CSP
WITH 30" CSP

L - 5

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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Staging Area
Southbound
PM 42.86
1225 sq ft

R/W

Drainage
(Location No.8)
PM 42.93

TCE

10.00'

20.00'

Footprint Area
4020 sq ft

GRADE UPSTREAM AND DOWNSTREAM

REPLACE 12" CSP WITH 18" CSP

L - 6

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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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FES AND RSP

Drainage (Location No.9) PM 43.37

R/W

Drainage (Location No.10) PM 43.44

GRADE DOWNSTREAM

REPLACE 18" RCP WITH 24" RCP

FES AND RSP

Footprint Area 2335 sq ft

REPLACE 18" RCP WITH 18" RCP AND EXTENDED A FEW FEET ON THE DOWNSTREAM END

Footprint Area 2250 sq ft

CONNECT TWO INLETS IN NB DITCH WITH 28" X 20" X 30' CSPA

L - 7

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 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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FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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.12)
PM 49.33

PDE

RSP

30.00'

25.00'

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

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USERNAME => %USER | RELATIVE BORDER SCALE 0 1 2 3 | UNIT 2000 | 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.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

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'

PDE

15.00'

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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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

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

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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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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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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

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

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Caltrans

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.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

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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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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

GRADE DITCH

Footprint Area 1340 sq ft

GRADE UPSTREAM AND DOWNSTREAM

REMOVE EXISTING HW

TCE

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

L - 18

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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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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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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
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FUNCTIONAL SUPERVISOR

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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

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LAST REVISION | DATE PLOTTED = 9 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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START AND END
CONSTRUCTION SIGN
500 FT FROM PM 54.65

Drainage
(Location No.27)
PM 54.65

R/W

Footprint Area
905 sq ft

REPLACE EXISTING COMBINATION
PIPE WITH 18" CSP

L - 23

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Caltrans

USERNAME => $USER

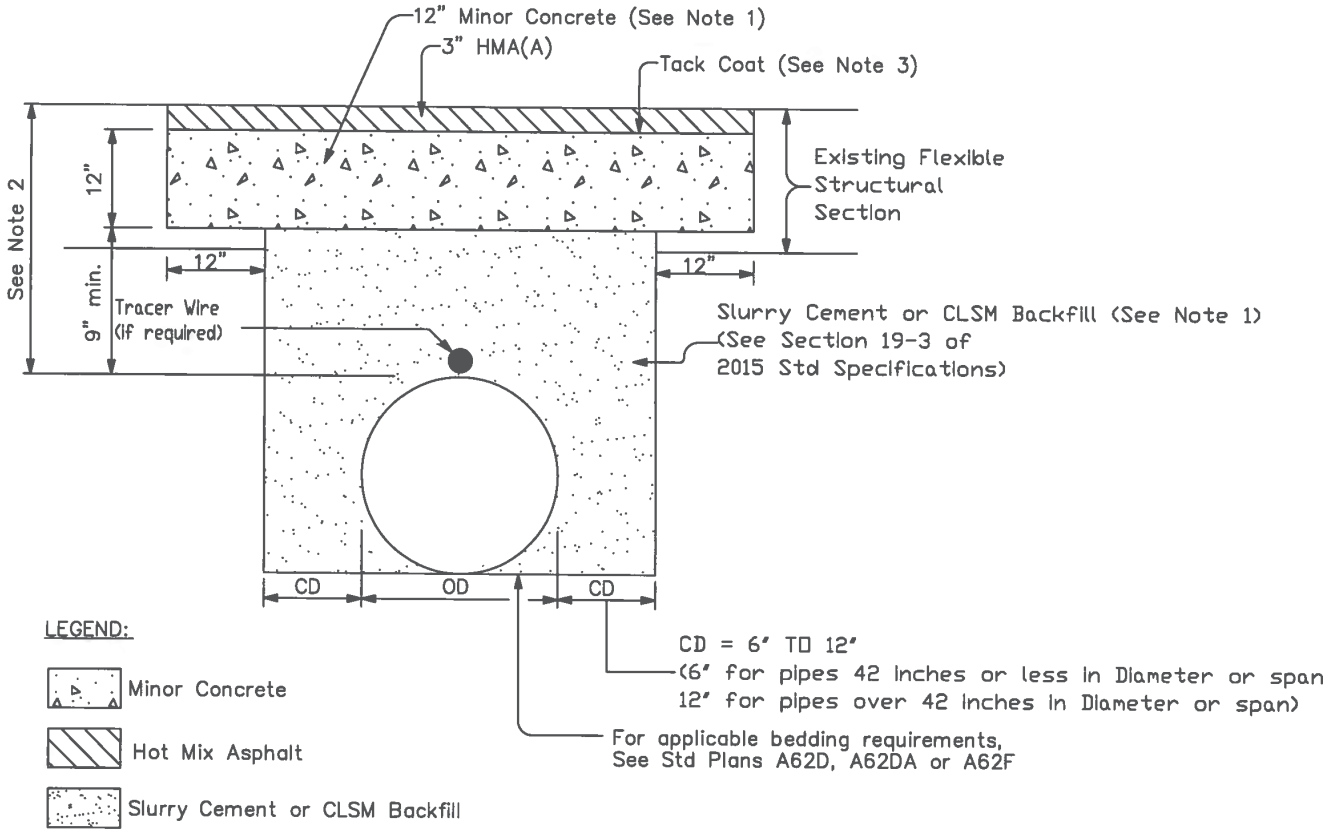
RELATIVE PLOTTER SCALE 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000000

LAST REVISION DATE PLOTTED => $DATE

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



NOTES:

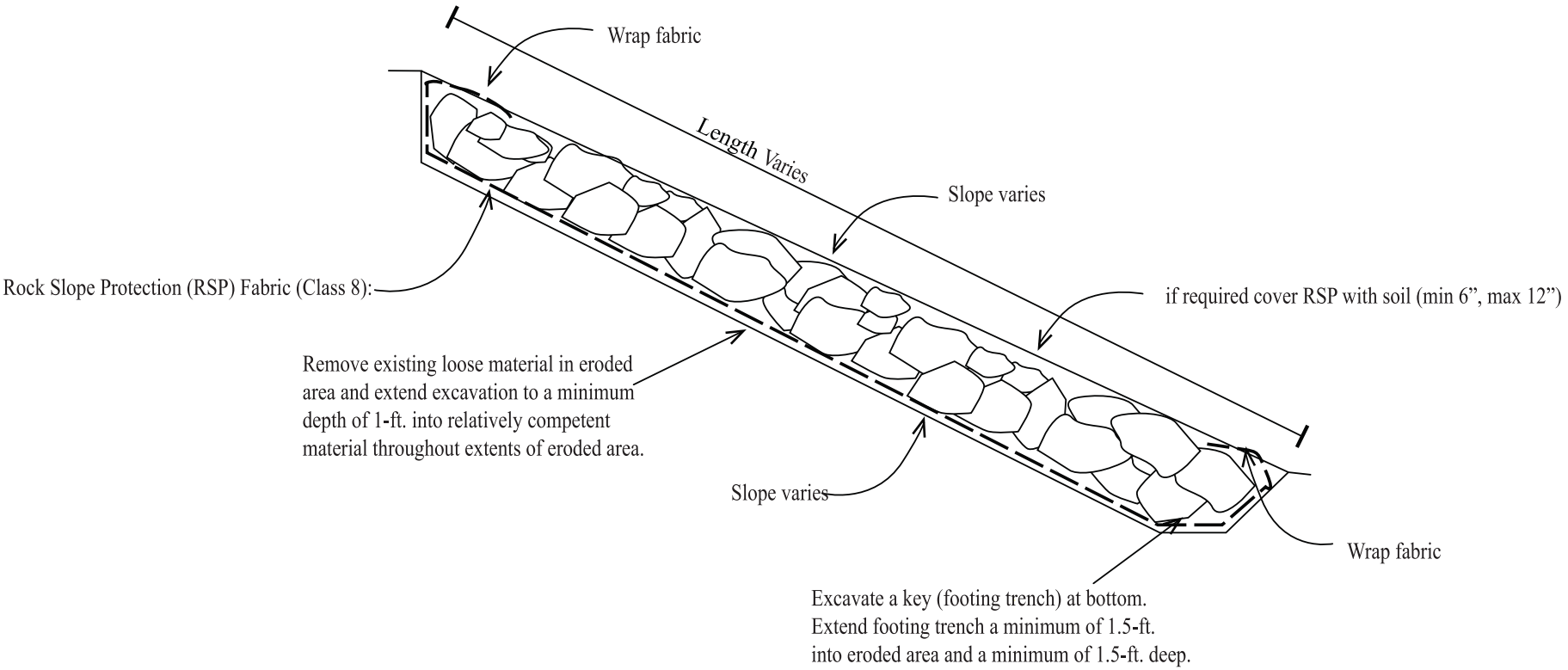
1. Concrete cap may be Rapid Strength Concrete (RSC); if RSC is used, replace the Slurry Cement or CLSM Backfill with Lean Concrete Backfill or RSC depending upon the project's time constraints.
2. For new installations, minimum depth of cover requirements are to follow guidelines in the Encroachment 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



Note: Not to scale

FIGURE 2-3
Typical Rock Slope Protection 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 all of the environmental factors 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:	**Date:**
Printed Name:	

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 impacts to a particular resource. A “no impact” answer in the last column reflects this determination. The words "significant" and "significance" used throughout the checklist are related to CEQA 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, tree grouping, 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 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.

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. Grasses and shrubs removed during construction will be replanted with native seed. 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 1-year plant establishment period (PEP). 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: Minimizing Light Trespass. Directional lighting and/or shielding will be required in any location where temporary lights would impact highway users or nearby residences.

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.

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 have 4 TCE locations of 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 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. 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). 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 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 area which 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) <u>Less than Significant Impact</u>

Surveys for the following special-status plant and animal species and their respective habitats were carried out during the fall and winter months of 2019. Although additional surveys will need to be conducted in 2020 and/or 2021 for special-status plants and their respective blooming seasons, and/or special-status animal species for slight fluctuations to the Project footprint, it is anticipated that significance determinations for these species will not change. The NES and environmental document will be updated accordingly with impact numbers based on the most recent field (2020-2021) data for specific species between draft environmental document and final environmental document.

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. However, protocol surveys were not conducted and 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*) was determined to be present in the BSA.

Avoidance and Minimization Measures for Rare Plants

AMM BIO-1: Pre-construction Surveys for Rare Plants. Detailed protocol-level floristic surveys would be conducted at the appropriate time of year prior to the start of the Project for all locations of suitable habitat within the Project limits. If a special-status plant is detected, the Project limits boundary would be adjusted to avoid impacting the species (AMM BIO-2).

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 (wetlands and waters), riparian habitat and upland habitat. Impacts to CRLF and their 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) 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: Preconstruction Surveys for California Red-legged Frog. The biological monitor will conduct preconstruction CRLF surveys. 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.

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 for threatened species 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 listed as a threatened species and as threatened in California. Multiple culvert work area locations are located in or within 0.25 mile of potentially suitable NSO habitat. The removal of the vegetation within approximately 0.251 acre (temporary) and 0.002 acre (permanent) of forest habitat (*Pinus muricata* or *Sequoia sempervirens* alliances) for the graded ditches, RSP, and culvert rehabilitation work 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 NSO surveys (using the USFWS's 2012 survey protocol; USFWS 2014) determine that the work area is occupied, or Caltrans presumes spotted owl occupancy without conducting surveys, 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 to September 30).

    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. No activity generating sound levels 20 or more decibels (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 NSO nesting\roosting habitat during the majority of the nesting season (i.e., February 1 to July 9; USFWS 2014). These 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).

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 Caltrans 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. Between August 6 (date when most MAMU have fledged in coastal northern California) and September 30 (end of MAMU nesting season), Project activities with adjacent suitable nesting habitat that will generate sound levels ≥10 dB above ambient sound levels will observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. Preparation work that does not generate sound levels above ambient sound levels, including street sweeping and manual removal of pavement markers, can occur during all hours. The need for this daily work window depends on the distance between suitable nesting habitat and the above-ambient sound generating activity following the USFWS's guidelines (USFWS 2014). For example, if above-ambient sound levels generated by proposed activities will become attenuated down to ambient sound levels prior to reaching suitable nesting habitat, the daily work window would not be necessary.

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

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*. A pre-construction survey for *Viola adunca* will be conducted in the early spring (late February/early March 2020), prior to construction, referencing phenology trends observed at Fort Ross or other nearby reference populations.

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. Host plants will be surveyed for evidence of larval feeding or damage. If host plants are considered potentially occupied by MSB or BSB then work will occur during the larval period and outside the flight season.

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 the 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. A 30-foot equipment exclusion buffer will be established around active and inactive nests that can be avoided; within such buffers, all vegetation will be retained, and nests will remain undisturbed.

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 and Shrub Planting. Tree and shrub planting are proposed onsite after the Project is complete. Trees with a diameter at breast height greater than 4 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 and shrubs 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 approximately 0.288 acre of potential USACE wetlands, 0.063 acre (775 linear feet) of potential non-wetland waters of the U.S., 679 linear feet of culverted waters of the U.S., and an additional 0.031 acre of potential CCC-only wetlands.

Temporary, direct impacts to both wetlands and waters are anticipated to occur. Approximately 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.). Approximately 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 cause 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.

In consultation with the Kashia, it was 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 will be 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) <u>No Impact</u>

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 Feature GHG-1 below.

Project Feature

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) <u>No Impact</u>

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 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, 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 improve 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.

Table 3-1 Key Provisions of the California Coastal Act

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 on 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 improve 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 it does 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 2020m) 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 the Salt Point State Park, the Project proposes both 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, precluding 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 (square feet)	PDE: west/east of roadway (square feet)	Proposed Rehabilitation Strategy
4	41.65	12” x 40’ Corrugated Steel Pipe (CSP)	200 west		Replace with a 24” x 55” x 40’ Corrugated Steel Pipe Arch (CSPA) Grade upstream and downstream
5	42.11	18” x 40’ CSP			Replace with a 24” x 40’ CSP Place inlet with two-sided opening on both upstream and downstream ends Grade downstream
6	42.36	18” x 40’ CSP	200 west		Replace with an 18” x 45’ CSP Replace headwall upstream Grade downstream
7	42.41	18” x 40’ CSP	200 east + 375 west	375 west	Replace with a 30” x 40’ CSP Place headwall on upstream end Rock Slope Protection (RSP) on downstream end
8	42.93	12” x 40’ CSP	200 west		Replace with an 18” x50’ CSP Regrade ditch east of roadway Grade upstream and downstream
9	43.37	18” x 35’ Reinforced Concrete Pipe (RCP)			Replace with 24” x 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 locally 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 likely to occur. 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	

In 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 speed, lane and shoulder width, curve radius, cross slope, super-elevation rate, 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 of SR 1. 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) Less than Significant Impact

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 include one-way traffic controls, flaggers, and construction phasing to reduce impacts to local residents and maintain access 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 ensure 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 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 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 Pacific Gas & Electric 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, 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 have temporary minor impacts on 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. 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) 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.

Chapter 5 List of Preparers

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

Table 4-1 List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Melanie Brent	Deputy District Director, Environmental Planning
Caltrans	Jennifer Blake	Associate Archaeologist
Caltrans	Helen Blackmore	Architectural Historian, Sr.
Caltrans	Robert Blizard	Office of Biological Sciences and Permits
Caltrans	Revisha Brar	Water Quality
Caltrans	Jennifer Chen	Water Quality
Caltrans	Bryan Chew	Transportation Engineer, Utilities
Caltrans	Austin Dang	Design
Caltrans	Chris Else	Landscape Architecture
Caltrans	Keith Fang	Hazardous Materials
Caltrans	Matthew Gaffney	Engineering Geologist
Caltrans	Stefan Galvez-Abadia	District Division Chief, Office of Environmental Analysis
Caltrans	Sophie Kolding	Associate Biologist
Caltrans	Kevin Krewson	Branch Chief, Office of Environmental Engineering
Caltrans	Hydraulics	Transportation Engineer, Hydraulics
Caltrans	Susan Lindsay	Landscape Architecture, Sr.
Caltrans	Arnica MacCarthy	Branch Chief, Office of Environmental Analysis
Caltrans	Shilpa Marredy	Transportation Engineer, Noise/Air Quality
Caltrans	Liz Nagle	Associate Environmental Planner
Caltrans	Muthanna Omran	Project Manager
Caltrans	Kathleen Reilly	Branch Chief, Office of Hydraulic Engineering
Caltrans	Chris Risden	Geotechnical Design
Caltrans	Kathryn Rose	Branch Chief, Cultural Resources/Archaeology
Caltrans	Ronald Sangalang	Project Engineer, Design
Caltrans	Jeffrey Ting	Transportation Engineer, Traffic Safety
Caltrans	Chris Wilson	Hazardous Materials
CH2M HILL	Rachel Cotroneo	Biologist
CH2M HILL	Kevin Fisher	Biologist

Chapter 6 Distribution List

The Initial Study with proposed Negative Declaration will be circulated by 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

Elected Officials

U.S. Senator Dianne Feinstein

U.S. Senator Kamala D. Harris

California Senator Mike McGuire

Congressman Jared Huffman

Assembly Member Jim Wood

Supervisor Lynda Hopkins

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

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Making Conservation a California Way of Life.

April 2018

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

For information or guidance on how to file a complaint, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

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, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

LAURIE BERMAN
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 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 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 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 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. 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, 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. Grasses and shrubs removed during construction will be replanted with native seed. 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 1-year plant establishment period (PEP). 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: Minimizing Light Trespass. Directional lighting and/or shielding will be required in any location where temporary lights would impact highway users or nearby residences.

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. Detailed protocol-level floristic surveys would be conducted at the appropriate time of year prior to the start of the Project for all locations of suitable habitat within the Project limits. If a special-status plant is detected, the Project limits boundary would be adjusted to avoid impacting the species

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) 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: Preconstruction Surveys for California Red-legged Frog. The biological monitor will conduct preconstruction CRLF surveys. 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.

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 NSO surveys (using the USFWS's 2012 survey protocol; USFWS 2014) determine that the work area is

occupied, or Caltrans presumes spotted owl occupancy without conducting surveys, Caltrans will adhere to the following measures:

3. **Vegetation Removal or Alteration:**

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

    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).

4. **Auditory or Visual Disturbance:**

    a. No activity generating sound levels 20 or more decibels (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 NSO nesting\roosting habitat during the majority of the nesting season (i.e., February 1 to July 9; USFWS 2014). These 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).

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:

5. **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.

6. **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. Between August 6 (date when most MAMU have fledged in coastal northern California) and September 30 (end of MAMU nesting season), Project activities with adjacent suitable nesting habitat that will generate sound levels ≥10 dB above ambient sound levels will observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. Prep work that does not generate sound levels above ambient sound levels, including street sweeping and manual removal of pavement markers, can occur during all hours. The need for this daily work window depends on the distance between suitable nesting habitat and the above-ambient sound generating activity following the USFWS's guidelines (USFWS 2014). For example, if above-ambient sound levels generated by proposed activities will become attenuated back down to ambient sound levels prior to reaching suitable nesting habitat, the daily work window would not be necessary.

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

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*. A pre-construction survey for *Viola adunca* will be conducted in the early spring (late February/early March 2020), prior to construction, referencing phenology trends observed at Fort Ross or other nearby reference populations.

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. Host plants will be surveyed for evidence of larval feeding or damage. If host plants are considered potentially occupied by MSB or BSB then work will occur during the larval period and outside the flight season.

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. A 30-foot equipment exclusion

buffer will be established around active and inactive nests that can be avoided; within such buffers, all vegetation will be retained, and nests will remain undisturbed.

Avoidance and Minimization Measures for Trees

AMM BIO-14: Tree and Shrub Planting. Tree and shrub planting are proposed onsite after the Project is complete. Trees with a diameter at breast height greater than 4 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 and shrubs 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 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 ensure 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
BIO	biology
BMP	best management practice
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

Appendix D List of Technical Studies and References

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