State Route 116 Slide Repair Project

Draft Initial Study with Proposed Negative Declaration

SONOMA COUNTY, CALIFORNIA
DISTRICT 4 – SON – 116 (PM 9.4-9.55)
04-2K360/0416000410

Prepared by the
State of California, Department of Transportation

December 2022

Caltrans

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) is proposing the State Route (SR) 116 Slide Repair Project (Project) to install a soldier pile retaining wall with anchor blocks and upgrade the drainage system at postmiles 9.4 to 9.55, between the unincorporated communities of Guerneville and Monte Rio in Sonoma County (Figure 1-1). The slope between the westbound lane and Old Monte Rio Road has slipped, causing mud and debris to spill onto SR 116. The existing slide continues to move during precipitation events and requires frequent maintenance to keep the highway open.

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

What you should do:

- Please read this IS/ND.
- This IS/ND, maps, and Project information are available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs). In addition, a hardcopy of this IS/ND will be made available at the following locations in the vicinity of the Project:
    - Guerneville Regional Library
      14107 Armstrong Woods Rd.
      Guerneville, CA 95446
    - Monte Rio Post Office
      21893 West St
      Villa Grande, CA 95486
- We would like to hear what you think. Send comments by 01/27/2023 to:

What happens next:

Per CEQA Section 15073, Caltrans will circulate this IS/ND for review for 30 days from December 29, 2022, to January 27, 2023. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this IS/ND 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 general public and responsible and trustee agencies, Caltrans may:

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

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

Alternative Formats:

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

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

Initial Study with Proposed Negative Declaration

04-SON-116	9.4-9.55	04-2K360
DIST. – CO. – RTE.	PM	EA

Project title:	State Route 116 Slide Repair Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Arnica MacCarthy, Senior Environmental Planner at (510) 506-0481 or Nicholas Piucci, Environmental Planner at (510) 926-0604
Project location:	Sonoma County, California
General plan description:	Highway
Zoning:	Rural Development/Residential & Resources
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements)	California Transportation Commission U.S. Fish and Wildlife Service Biological Opinion U.S. Army Corps of Engineers (USACE) Clean Water Act Section 404 Nationwide Permit 14 North Coast Regional Water Quality Control Board (RWQCB) Clean Water Act Section 401 Water Quality Certification

The IS/ND, maps, and Project information are available to download at the District 4 Environmental Documents by County website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Maxwell Lammert

Maxwell Lammert
Acting Chief, Office of Environmental Analysis
California Department of Transportation, District 4

12/23/2022
Date

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

Proposed Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Negative Declaration (IS/ND) for the State Route (SR) 116 Slide Repair Project (Project). Caltrans proposes to stabilize the embankment and prevent additional landslides through the construction of a soldier pile retaining wall with ground anchors adjacent to the westbound lane. This Project would also repair a downdrain culvert, also damaged by landslides, and would include other drainage improvements to help stabilize the slope over the long term. Concrete barriers and a metal beam guardrail system would be installed adjacent to the westbound lane.

Determination

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

Caltrans has prepared this IS/ND for the Project and, pending public review, expects to determine from this study that the Project would not have a significant effect on the environment for the following reasons:

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

_____ _____

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

Date

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List of Abbreviated Terms

Abbreviated Term	Definition
AMM	avoidance and minimization measure
BSA	Biological Study Area
BMP	best management practice
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
CNDDB	California Natural Diversity Database
CO_2	carbon dioxide
CRLF	California red-legged frog
dBA	A-weighted decibel
ESA	Environmentally Sensitive Area
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
IS/ND	Initial Study with Proposed Negative Declaration
L_{max}	highest sound level measured during a single noise event
MGS	Midwest Guardrail System
MLD	Most Likely Descendent

Abbreviated Term	Definition
MRZ	Mineral Resource Zone
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NESMI	Natural Environment Study Minimal Impact
NMFS	National Marine Fisheries Service
NNI	new impervious surface
PF	Project feature
PM	post mile
$PM_{2.5}$	particulate matter with aerodynamic diameter equal to or less than 2.5 micrometers
PM_{10}	particulate matter with aerodynamic diameter equal to or less than 10 micrometers
Project	State Route 116 Slide Repair Project
PS&E	plans, specifications, and estimates
ROW	right of way
RWQCB	North Coast Regional Water Quality Control Board
SHOPP	State Highway Operation and Protection Program
SR	State Route
SSC	Species of Special Concern
SSP	standard special provision
TMDL	Total Maximum Daily Load

Abbreviated Term	Definition
TMP	Traffic Management Plan
USFWS	United States Fish and Wildlife Service
VMT	vehicle miles traveled
WEAT	worker environmental awareness training
WPCP	Water Pollution Control Program

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is proposing the State Route (SR) 116 Slide Repair Project (Project) to install a soldier pile retaining wall with anchor blocks and upgrade the drainage system at postmiles (PMs) 9.4 to 9.55, between the unincorporated communities of Guerneville and Monte Rio in Sonoma County (Figure 1-1; figures are presented in Appendix A). The Project is considered a Major Damage (Permanent Restoration) project. During multiple storm events the slope between the westbound lane and Old Monte Rio Road has slipped, causing mud and debris to spill onto SR 116. The existing slide continues to move during precipitation events and requires frequent maintenance to keep the highway open.

Caltrans proposes to build an approximately 626.5-foot-long soldier pile retaining wall with anchor blocks as well as improving and adding to the current drainage systems. Existing downdrains would be replaced and the construction of an additional culvert would connect to an existing pip at the points where it daylights through the existing soldier pile wall at Old Monte Rio Road. An existing 24-inch corrugated metal pipe (CMP) cross-road culvert under SR 116 would be replaced in three segments with a relatively shallow pipe across the roadway and a downdrain that outlets on the embankment. A new inlet in the eastbound shoulder connecting the downstream two segments would be installed and covered with a bicycle-safe grate. Five new drainage inlets would be constructed and would be covered with bicycle-safe grates, with three of the inlets located along the barrier at the edge of shoulder and two (in addition to the replacement) along the wall/barrier. The three along the barrier at the edge of shoulder would be connected to the corresponding inlets along the wall by short segments of 18-inch diameter culvert, perpendicular to the wall. The two new inlets along the wall would be connected to the replacement inlet by longitudinal 18-inch culverts. Rock slope protection (RSP) would be installed at the culvert outfall to prevent further erosion. Approximately 75 feet of ditch would be regraded near the inlet at PM 9.63, and 50 feet of ditch would be regraded near the inlet at PM 9.50. Specific grading plans would be designed during the Project plans, specifications, and estimate (PS&E) phase.

Caltrans is the lead agency under the California Environmental Quality Act (CEQA) for the SR 116 Slide Repair Project and has prepared this Initial Study with Proposed

Negative Declaration (IS/ND). The Project would be funded under the State Highway Operation and Protection Program (SHOPP) and the total cost estimate, including capital and support costs, is approximately $10,700,000.

1.2 Purpose and Need

The purpose of the proposed Project is to repair a slope damaged by storm- and erosion-induced landslides, and to prevent future landslides onto this segment of SR 116. The Project is needed because heavy rains seasonally saturate the steep hillside and cause landslides that encroach onto westbound SR 116. In the past, this has necessitated temporary closures of SR 116 until cleanup was completed. If the underlying slope instability is not addressed, landslides may continue to occur, affecting highway accessibility and the safety of the traveling public.

1.3 Existing Facilities and Location

The Project is located adjacent to the Russian River, in the North Coast Bioregion of northern California. The land use within the highway corridor is primarily rural forest and rural residential, but also includes rural resorts, a golf club, and rural communities such as the town of Guerneville and the hamlet of Monte Rio. The Project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance. Existing travel lanes are approximately 12 feet wide, with no shoulders and no designated pedestrian or bicycle facilities.

Chapter 2 Project Description

2.1 Introduction

Caltrans proposes to build a tie-back retaining wall to stabilize a failing slope along State Route 116. The Project would also replace the existing 18-inch diameter corrugated metal pipe (CMP) downdrain and adjacent 18-inch diameter plastic downdrain with an 18-inch diameter corrugated steel pipe (CSP) downdrain. The existing 24-inch diameter CMP cross-road culvert under SR 116 would be replaced with a shallow pipe across the highway and a downdrain that outlets on the embankment, south of the highway. An existing drainage inlet would be replaced in addition to the construction of five new drainage inlets. Furthermore, a concrete barrier between the highway shoulder and retaining would be constructed to improve the safety of drivers along this portion of SR 116.

2.2 Project Components

This section discusses Project components that would be constructed as part of the Project. Figure 1-2 contains the Project footprint and design elements.

2.2.1 Soldier Pile Retaining Wall

The proposed anchored soldier pile retaining wall would be approximately 626.5-feet long. The wall consists of 50-foot-long double steel channel sections in 30-inch diameter drilled holes filled with concrete backfill, spaced at 8-foot intervals. Two rows of ground anchors, each approximately 50-feet long, would be installed between the double steel channel sections to stabilize the slope. The maximum height of the exposed face of the wall would be approximately 20 feet. The exposed face of wall would be covered with 12-inch-thick cast-in-place concrete facing or structural shotcrete for fire protection. Architectural treatment would be applied to the wall facing to address landscape and visual requirements. The wall facing would be secured to the double steel channel sections by shear studs welded to the channel sections. The wall would have a coping at the top of the wall to blend the wall into the slope above. No maintenance access would be provided at the top of wall but a paved 10-foot-wide maintenance area would be provided at the base of the wall. The work would include installing twenty-four 75-foot-long horizontal drains spaced 25 feet apart, positioned at a 5-degree incline, in order to address groundwater seepage.

2.2.2 Drainage Improvements

Drainage improvements would include replacing an existing 18-inch-diameter CMP downdrain and adjacent 18-inch-diameter plastic downdrain with an 18-inch CSP downdrain. The new downdrain would be connected to the existing plastic pipe at the point where it daylights through the existing soldier pile wall at Old Monte Rio Road. The existing inlet at the toe of slope would be replaced with a type G2 drainage inlet and the inlet would be covered with a bicycle-safe grate. The new downdrain would connect to the replaced inlet with a vertical downdrain section passing over the wall. An existing 24-inch CMP cross-road culvert under SR 116 would be replaced in three segments with a relatively shallow pipe across the highway and a downdrain that outlets on the embankment. Rock slope protection (RSP) would be installed at the culvert outfall to prevent further erosion. A new inlet in the eastbound shoulder connecting the downstream two segments would be installed and covered with a bicycle-safe grate. Five new drainage inlets would be constructed and would be covered with bicycle-safe grates, two of the inlets located along the barrier at the edge of shoulder and two (in addition to the replacement) along the wall/barrier. The three along the barrier at the edge of shoulder would be connected to the corresponding inlets along the wall by short segments of 18-inch diameter culvert, perpendicular to the wall. The two new inlets along the wall would be connected to the replacement inlet by longitudinal 18-inch culverts. Approximately 75 feet of ditch would be regraded near the inlet at PM 9.63, and 50 feet of ditch would be regraded near the inlet at PM 9.50. Specific grading plans would be designed during the PS&E phase.

2.2.3 Other Features

A concrete barrier would be installed at the westbound edge-of-pavement along the base of the retaining wall and a 10-foot-wide maintenance area would be constructed at the base of the retaining wall. The concrete barrier would be constructed between the highway shoulder and the maintenance area with appropriate crash cushion end treatments at both ends of the barrier. The top of the retaining wall would have a coping to blend the wall into the slope. At both ends of the retaining wall, anchor blocks, 1-foot-wide by 9-feet-4-inches long, would be constructed to provide connections for Midwest Guardrail System (MGS) guardrail end treatments.

2.2.4 Ground Disturbance

Ground disturbance would occur on the slope adjacent to the westbound lane during grading and slide stabilization, construction of the retaining wall, and pavement widening. Pavement would be widened by an additional 18 feet between the bottom of the retaining wall and the existing highway shoulder. Ground disturbance would

also occur during drainage system improvements. Approximately 4-foot-wide trenches would be excavated to repair culverts on both sides of SR 116. Excavated material would be stockpiled and used as backfill or removed from the site and disposed of at an appropriate facility. Areas cleared for construction would be revegetated after construction, in accordance with applicable permits and Caltrans standard requirements. Restoration for these temporary areas would be accomplished through onsite revegetation, in consultation with regulatory agencies.

2.2.5 Vegetation/Tree Removal

Some vegetation removal would be required to construct the soldier pile wall, complete drainage improvement work, and accommodate slope stabilization. Up to approximately 38 trees may need trimming and/or removal and 0.33 acre of forest would be permanently impacted while 1.33 acres of forest would be temporarily impacted.

2.3 Construction Methodology

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

2.3.1 Construction Staging and Contractor Use Areas

Right of way acquisition is not anticipated. All work should be able to take place within State or County ROW. A temporary construction easement (TCE) from Sonoma County is anticipated for proposed work on Old Monte Rio Road and the southern portion of the Project footprint. Staging and contractor use areas would be limited to paved or gravel surfaces and disturbed areas. Staging would occur in closed traffic lanes and the existing pullout adjacent to the eastbound lane of SR 116. Temporary K-rails (or similar) would be used to separate open traffic lanes from closed traffic lanes.

2.3.2 Traffic Control

Temporary lane closures utilizing signalized reversing one-way traffic control is anticipated to provide enough space to construct most the Project. Since Caltrans would use a 24-hour full time one lane closure for the wall construction, most of the work can be done during daytime. Temporary traffic signals would maintain one-way traffic control when the westbound lane is closed. Some overnight flagged one-way traffic control lane closures may be necessary for paving work, drainage work, restriping and establishing the signalized closure.

2.3.3 Utilities

Overhead utility lines are located on the eastbound side of SR 116 and joint utility poles with overhead electrical lines and phone cables are positioned along Old Monte Rio Road. Relocation of these lines is not anticipated because they are not in conflict with the proposed Project. No underground utilities have been identified.

2.3.4 Schedule

The majority of construction is expected to occur at during the day with a 24-hour full time one lane closure for the wall construction. The Project is anticipated to require approximately 300 working days to construct, across two construction seasons, and is currently scheduled to begin in June 2024. The construction schedule and duration is tentative pending further design. Additionally, the Project would need roughly 20-25 working nights.

2.3.5 Construction Sequence

The exact construction sequence and methodology is subject to change but currently includes:

1. Setting up staging areas and contractor use areas.
2. Installing temporary water quality best management practice (BMP) devices and environmentally sensitive area (ESA) fencing.
3. Installing temporary signal system.
4. Clearing and grubbing vegetation and trimming or removing trees as necessary.
5. Removing the downdrains on the westbound slope.
6. Clearing and grubbing vegetation.
7. Closing existing westbound lane to traffic, restriping existing highway and activating temporary one-way traffic control signal system.
8. Removing existing asphalt, road fill, and the existing inlet and cross-road culvert segment within the westbound lane.
9. Drilling the shafts for steel beam soldier piles.
10. Installing steel beam soldier piles and installing timber lagging.
11. Backfilling the soldier piles and timber lagging up to the cross-road drainage profile.
12. Installing the two segments of cross-road culvert (westbound lane segments) and replacement inlet.
13. Back-filling up to profile of the highway base.
14. Finishing backfilling and timber lagging to top of wall.

15. Constructing 12-inch-thick cast-in-place concrete facing or structural shotcrete at face of wall with aesthetic treatment form liners.
16. Constructing anchor blocks.
17. Restoring contours to preconstruction conditions.
18. Constructing replacement 18-inch CMP downdrain from existing plastic pipe upstream to replacement inlet, including over-the-wall vertical segment.
19. Construct concrete barrier between westbound highway shoulder and maintenance area.
20. Installing MGS and crash cushion end treatments.
21. Removing temporary water quality features from areas to be treated with permanent erosion control adjacent to the westbound lane.
22. Hydroseeding disturbed areas.
23. Applying permanent erosion control BMPs including coir mats and rolls, bonded fiber matrix, compost, hydromulch, and hydroseed to disturbed areas adjacent to the westbound lane.
24. Via cut and fill, constructing remaining new G2 drainage inlets.
25. Re-opening the westbound lane for traffic. De-activating and dismantling temporary one-way traffic control signal system.
26. Reconstructing the highway using overnight traffic control.
27. Restriping the highway with an enhanced wet-night visibility thermoplastic and installing new highway markers.
28. Removing equipment and material from staging areas.
29. Removing temporary water quality features from areas to be treated with permanent erosion control adjacent to the eastbound lane.
30. Applying permanent erosion control BMPs including coir mats and rolls, bonded fiber matrix, compost, hydromulch, and hydroseed to disturbed areas adjacent to the eastbound lane.
31. Removing remaining temporary water quality BMPs and ESA fencing.

2.3.6 Construction Equipment

Anticipated equipment includes, but is not limited to, standard and commercial grade vehicles, heavy equipment, electrical and fuel powered machinery, pneumatic tools, and manually operated tools. Specifically, anticipated equipment for retaining wall construction would include a truck-mounted soil drill to create holes for soldier piles, a crane to position soldier piles and other heavy materials, dump trucks and flatbeds to deliver and remove materials, an excavator, front end loaders and backhoes to

manipulate or remove material and spoils, pavement saws and jackhammers to break up concrete and pavement, concrete mixer trucks to deliver Portland cement concrete, a hot mix asphalt paver, and pavement roller.

2.3.7 Right of Way

Construction-related activities, including staging areas, would occur within Caltrans ROW. The Project would not require ROW acquisition for the purposes of temporary construction easements or permanent drainage easements.

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

The Project is anticipated to receive a Biological Opinion from the U.S. Fish and Wildlife Service (USFWS) for California red-legged frog and Northern Spotted Owl. The Project anticipates impacts to Waters of the U.S. Thus, a Section 404 permit, issued by the U.S. Army Corps of Engineers (USACE), is required. A Section 401 certification, issued by the North Coast Regional Water Quality Control Board (RWQCB), is required. Approval of funding for the Project is required by the California Transportation Commission for each phase of the Project. No other permits, licenses, agreements, certifications, or approvals are anticipated to be required for the Project.

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 [CCR], Division 6, Chapter 3, Section 15091). The analysis considers potential environmental impacts of the Project as discussed in Chapter 2.

3.1 Environmental Factors Potentially Affected

As part of the scoping and environmental analysis carried out for the Project, the following environmental factors were considered, but no impacts were identified: agriculture and forest resources, geology and soils, land use and planning, mineral resources, population and housing, recreation, utilities and service systems, and tribal cultural resources. The environmental factors checked below would be potentially impacted by the Project. Further analysis of these environmental factors is discussed in this chapter:

X	Aesthetics		Agriculture and Forestry	X	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
X	Noise		Population/Housing	X	Public Services
	Recreation	X	Transportation		Tribal Cultural Resources
	Utilities/Service Systems	X	Wildfire	X	Mandatory Findings of Significance

3.2 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 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:**
Maxwell Lammert	12/23/2022
Printed Name: Maxwell Lammert	**For:**

3.3 CEQA Environmental Checklist

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

Project features (PFs), which can include both design components of the Project and standardized measures that are applied to all, or most of, Caltrans projects, such as BMPs and measures included in the Standard Plans and Standard Specifications or as Standard Special Provisions, are considered to be an integral part of the Project and have been considered prior to any significance determinations documented in this section. Avoidance and minimization measures (AMMs) are additional measures to avoid and/or minimize a project’s environmental impacts but are more specifically tailored to a given project’s particular impacts. The PFs and AMMs presented in this section have been considered prior to any significance determinations documented in this section; refer to Sections 3.3.1 through 3.3.21 and Appendix B for a detailed discussion and summary, respectively, of the Project features and AMMs.

Sections 3.3.1 through 3.3.21 present the CEQA determinations under Appendix G of the CEQA Guidelines. The CEQA determinations depend on the level of potential environmental impact that would result from the Project. The level of significance determinations are defined as follows:

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

3.3.1 Aesthetics

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

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	Less Than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less Than Significant Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	No Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less Than Significant Impact

CEQA Significance Determinations for Aesthetics

A portion of SR 116 in Sonoma County is listed as a State Scenic Highway, from the start of SR 116 in the coastal town of Jenner (PM 0.0) all the way to Sebastopol, a little past the intersection of Lynch Road and SR 116 (PM 27.8).

The Project, located at PMs 9.4 through 9.55, lies within the Scenic Highway segment. SR 116 cuts through a second growth redwood forest to the west and follows the Russian river to the east. The vistas throughout the corridor include views of the Russian River and coastal hills, a historic resort, and historic logging areas. The winding road affords broad views of grassy hills and shallow valleys near the coast and in the Monte Rio and Duncan Mills areas, and views of the narrow valley formed by the Russian River and adjacent forested slopes dominated by a mixed canopy of redwoods, firs, maples, bay, and madrone trees.

The Project is located at a steep, north-facing slope within a noticeable break in the otherwise heavy forest canopy and has relatively broad sky views and sunlight. The highway at the Project location is situated uphill from the Russian River and below Old Monte Rio Road, which is a county road. The existing vegetation immediately east and west of and at the Project location consists of scattered immature maples, bay trees, coast redwoods, Douglas fir, grass, and scrubby vegetation on the cut slope, with rock and soil intermittently visible amongst the vegetation. On the opposite side of SR 116, a thin stand of trees flanks the highway that allows occasional views to the Russian River beyond. A discrete stand of large coast redwoods with an understory of bigleaf maple and bay trees stands beyond the narrow shoulder at the Project post

mile location. A broad paved and unpaved shoulder pullout area with breaks in the tree canopy and brief views of the river beyond is at the west end of the Project location, on the river side of the highway.

A Visual Impact Assessment was prepared by the Caltrans Office of Landscape Architecture (Caltrans 2022a). A summary of the findings is presented here.

a, b, and d) Less Than Significant Impact

With minimization measures implemented, the Project would present a low level of visual change to the SR 116 corridor. Although an aesthetically treated wall would not replicate the natural textures and colors of the hillside it replaces, there are locations within the Russian River portion of the SR 116 Scenic Highway Corridor with walls that have been designed similarly to reduce visual contrast with the surrounding landscape. The primary visual changes would occur from the wall itself, the addition of a concrete barrier, and additional drainage pipe on the slope above the wall.

The Project would not adversely affect any scenic resource identified as requiring special consideration such as a rock outcropping, important tree grouping, historic properties, etc., as defined by CEQA status or guidelines, or Caltrans policy. Additionally, there are no historical building within the Project footprint.

The Project would not result in new substantial light or glare that would adversely affect nighttime views. Construction lighting would be limited to occurring within the Project footprints for construction-related activities, and light trespass to adjacent residences and to the traveling public would be minimized with the use of directional lighting, shielding, and other measures as needed.

Upon completion of construction-related activities and implementation of minimization measures, the Project would not significantly impact the SR 116 corridor and visual impacts would be less than substantial. The primary item of work, the addition of a retaining wall, would result in minor permanent visual changes if minimization measures are made. Other items of work would result in negligible to minor visual changes. Impacts to scenic resources in the Project corridor would be less than significant.

c) No Impact

Although the Project is in a very scenic area, the Project would not substantially degrade the existing visual character or quality of public views of the area as there are no public areas within the Project footprint. The Project would not conflict with applicable zoning and other regulations governing scenic quality.

PROJECT FEATURES

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

- PF-AES-1, Temporary Fencing: Use temporary exclusion fencing to protect the roots and canopies of nearby trees from construction-related activities.
- PF-AES-2, Construction Equipment and Materials Storage: Construction equipment and materials should be stored in screened staging areas beyond the direct view of the traveling public and residential properties to the extent feasible.
- PF-AES-3, Nightwork: For nightwork, limit construction lighting to the Project footprint for construction-related activities, and use directional lighting, shielding, and other measures as needed to minimize light trespass to adjacent residences and to the traveling public.
- PF-AES-4, Vegetation Impacts and Protection: Reduce impacts to vegetation to the greatest extent possible while allowing the Project to be implemented. Vegetation to remain should be protected from construction activities by temporary fencing when vegetation is close to construction-related activities.
- PF-AES-5 Revegetate Disturbed Areas: Revegetate disturbed areas with regionally appropriate, commercially available, native seed mix.

AVOIDANCE AND MINIMIZATION MEASURES

AMM-AES-1 through AMM-AES-12 would avoid or minimize potential impacts to visual resources.

- AMM-AES-1, Aesthetically treat the wall and coping to simulate natural rock slopes, such as those that occur within the Sonoma SR 116 corridor between PM 4.4 and PM 10.7, in order to reduce visual contrast and produce a more varied surface texture and color that is compatible with the surrounding environment.

- AMM-AES-2, Color treat barriers dark brown to reduce visual contrast with the surrounding environment.
- AMM-AES-3, Color galvanized steel guardrails and other metal safety systems such as alternative end treatments and crash cushions (if practicable), a dark brown color to reduce visual contrast with the surrounding environment.
- AMM-AES-4, Route drain pipes to avoid damage to, or removal of, scenic resource trees (coast redwoods) on the river side of the highway.
- AMM-AES-5, Recess down-drain into the wall plane to avoid distracting shadowing and the appearance of engineered features strapped to the surface of the aesthetically treated wall.
- AMM-AES-6, Stockpile and re-use native topsoil to the extent practicable, to assist in revegetation success and re-establish native plants present in the native soil.
- AMM-AES-7, Soil fill and vegetate RSP to the extent practicable.
- AMM-AES-8 Prune trees under the supervision of a certified arborist to accommodate construction access to the maximum extent practicable, prior to considering tree removal.
- AMM-AES-9, Prune trees under the supervision of a certified arborist to accommodate construction access to the maximum extent practicable, prior to considering tree removal.
- AMM-AES-10, If construction work results in the unavoidable removal of existing trees of diameter breast height (caliper size) 4 inches or greater, replant trees within the Project limits with native and climatically appropriate species to the extent practicable; provide a minimum of three years of planting establishment for replacement trees.
- AMM-AES-11, Remove prior landslide debris and round grades at the berm adjacent to the river side of the highway, and revegetate this soil, to appear more natural.
- AMM-AES-12, Minimize appearance of construction equipment and staging areas. Screen the staging area from views from the river to the extent practicable.

3.3.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

Question	CEQA Determination
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact

CEQA Significance Determinations for Agriculture and Forest Resources

The portion of the Project area west of SR 116 is located along a slope that fails during large storm events. The Project footprint is not located within farmland, nor timberland (California Department of Conservation 2016 and 2019). Forestland would not be impacted by the Project and tree trimming and removal would be in compliance with AMM-AES-8 through AMM-AES-10. There are no Williamson Act contracts within the Project footprints, nor anywhere within a half a mile of the Project parcels.

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

The Project would not affect agricultural land and would not convert Farmland to a non-agricultural use. The Project would not affect areas under a Williamson Act contract. The Project would not conflict with existing zoning for forest land or timberland, or convert forest land to non-forest use land, as there are no forest lands or timberlands within the Project footprints. The Project would not involve other

changes in the existing environment that would result in conversion of forest or agricultural land. There would be no impact, as construction-related activities, including staging areas, would occur within Caltrans and Sonoma County ROW.

3.3.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact

CEQA Significance Determinations for Air Quality

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

a) No Impact

The Project would have temporary construction emissions and construction-related activities would comply with state and local regulations and policies. Emission reduction measures would be implemented as discussed under PF-AQ-1 through PF-AQ-3 to reduce construction emissions. The Project would not affect vehicle operation on SR 116 or nearby roadways when construction is complete. Long-term emission increases and adverse impacts from the Project are not anticipated. Therefore, the Project would not conflict with the region's air quality plan. There would be no impact.

b, c, and d) Less Than Significant Impact

Slope stabilization and the addition of safety features would not alter characteristics of SR 116 and local roadways, increase operational capacity, or change the horizontal or vertical alignments of SR 116. No long-term impacts to air quality would occur.

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

During construction, the Project would comply with Caltrans Standard Specification 14-9, Air Quality, which requires compliance with applicable air-pollution control rules, regulations, ordinances, and statutes. In addition, the Project would implement BMPs, and PF-AQ-1 through PF-AQ-3 to further reduce air quality impacts.

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

PROJECT FEATURES

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

- PF-AQ-1, Dust Control Measures: Implement dust control measures to minimize airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 116 created by construction traffic, and covering soils or materials or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.

- PF-AQ-2, Construction Vehicles and Equipment: Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.

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

3.3.4 Biological Resources

Would the project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or NOAA Fisheries?	Less Than Significant Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Less Than Significant Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less Than Significant Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact

CEQA Significance Determinations for Biological Resources

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

The Biological Study Area (BSA) is the area assessed for sensitive natural communities and habitats, special-status plant and animal species, and jurisdictional waters and wetlands that might be impacted by the Project. This area encompasses the Project footprint and adjacent areas subject to indirect impacts. Indirect impacts are those that are reasonably foreseeable but may occur at a later time or whose effects are not confined within the Project footprint (e.g. lighting, noise, stormwater runoff, etc.). The BSA for this Project includes the anticipated Project footprint and a 100-foot buffer. The BSA is approximately 6.5 acres.

A regional list of special-status wildlife and plant species was compiled using databases to evaluate the potential impacts that could occur to sensitive biological resources as a result of the Project. The database search included: the California Natural Diversity Database (CNDDB; CDFW 2022), the USFWS Information for Planning and Consultation Database (USFWS 2022), the California Native Plant Society Inventory of Rare and Endangered Plants of California (CNPS 2022), and the National Marine Fisheries Service (NMFS) database (NMFS 2022). The special-status plant and animal species on the regional lists were evaluated to determine their potential to occur within the Project area.

a) Less Than Significant Impact

Implementation of PF-BIO-3 through PF-BIO-7, AMM-BIO-2 through AMM-BIO-12 and PF-BIO-14, summarized in Appendix B, would reduce, avoid, or minimize impacts to biological resources. The Project would also have less than significant impact on any identified listed, candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW), USFWS, or NMFS.

Special-status species that are potentially present within or adjacent to the BSA are discussed in the NES and below.

The NES lists three special-status wildlife species observed in the Project vicinity during site visits: western pond turtle (*Emys marmorata*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*). Other special-status terrestrial wildlife species that could occur in the BSA include Townsend's big-eared bat (*Corynorhinus townsendii*) and western red bat (*Lasiurus blossevilli*).Construction activities would not impact these special-status species or disrupt nesting or breeding with implementation of PFs and AMMs below and in Appendix B.

Freshwater aquatic special-status species that may occur in the BSA include: federally threated California coast Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionary Significant Unit; federally and state endangered central California coast coho salmon (*Oncorhynchus kisutch*) Evolutionary Significant Unit; federally threated central California coast steelhead (*Oncorhynchus mykiss*) Distinct Population Segment; and California SSC Russian River tule perch (*Hysterocarpus traskii pomo*). The Project would have no direct impacts to the Russian River and would avoid impacts to riparian trees associated with the Russian River. The Project will not affect federally designated salmonid or Russian River tule perch habitat.

Animals

California Red-Legged Frog: CRLF is a federally threatened species and a California Species of Special Concern (SSC). Low potential to occur in the BSA. There is marginally suitable habitat present in the BSA, however, the steep slopes on the south side of the Russian River do not provide suitable topography for pond formation and there are no suitable breeding sites for CRLF in or near the BSA. There are three CNDDB occurrences within 5 miles of the BSA, with the closest occurrence located approximately 3 miles southwest of the BSA, however, the Russian River would present a substantial barrier to dispersal.

Construction activities could result in take of individual CRLF. Vehicle operation, foot traffic, vegetation clearing, grubbing, ground disturbance, ECS removal, and placement of RSP at the new culvert outfall could directly harm, injure, or kill CRLF. In addition, ground disturbance and vibration from construction activities could collapse burrows and entomb CRLF. Visual disturbance from the activities listed above and potential removal and relocation of individuals found onsite could result in harassment. The drainages and emergent wetlands within the BSA are not considered breeding habitat. Thus, impacts are limited to upland dispersal habitat and non-breeding aquatic habitat.

Impacts would be considered permanent if habitat remains disturbed for more than one construction season or if habitat could not be recovered onsite. Work associated with the proposed Project would temporarily affect 0.86 acre of potentially suitable upland dispersal habitat, including conifer forest, hardwood forest, and riparian forest. Work associated with the proposed Project would permanently affect 0.33 acre of potentially suitable upland dispersal habitat and 66.4 square feet of potentially suitable aquatic non-breeding habitat, in the form of freshwater emergent wetlands and an intermittent drainage. Permanent impacts are associated with construction of the soldier pile wall, the concrete barrier, shoulder widening, and installation of RSP. Temporary impacts are associated with slope grading and stabilization and drainage improvements. No impacts to potential breeding pools are anticipated.

Implementation of PF-BIO-3 through PF-BIO-5, PF-BIO-12 and PF-BIO-14, in addition to AMM-BIO-2 through AMM-BIO-5, as summarized in Appendix B, would reduce, avoid, or minimize impacts to CRLF and its habitat. The impact would be less than significant.

Northern Spotted Owl: The northern spotted owl (*Strix occidentalis caurina*) (NSO) exhibits high site fidelity, generally retaining the same breeding territories from year

to year. Nests are usually found in old-growth coniferous trees (i.e., exceeding 200 years) with large diameters: greater than 30 inches diameter at breast height (dbh) (LaHaye 1988). Douglas fir is the most common nesting tree species (Forsman et al. 1984, LaHaye and Gutierrez 1999). Courtship begins in February or March, eggs (1-4, average 2 eggs) are typically laid in late March or April, and the young leave the nest in late May or June but remain dependent on their parents for food until late August or September (Forsman et al. 1984). There are no CNDDB occurrences within 5 miles of the BSA, however, there is suitable conifer forest habitat present that could provide potential nesting, roosting and/or foraging habitat.

The use of construction equipment in the Project footprint could impact nesting, roosting, or foraging birds within the NSO study area directly through vegetation clearing, grubbing, or ground disturbance. In addition, noise and visual disturbance could cause nesting birds to abandon active nests, ultimately resulting in unviable eggs or mortality of nestlings. Noise model results of construction activities indicate that noise levels of 82 A-weighted decibel (dBA) equivalent sound level (L_{eq}) or more, corresponding to the USFWS tolerance threshold (USFWS 2020), would occur within 295 feet of construction during the loudest construction phases and within 145 feet during the quietest phase of construction.

Additionally, the USFWS has determined that the level of take for NSO may be reached if human activities occur within a line-of-sight distance of 330 feet or less from a nest. The habitat within the 330-foot contour north of the Project footprint is not suitable for NSO nesting; this area is occupied by the river channel and low willow thickets on the north bank. The area within the 330-foot contour south of the Project supports conifer forest and a patch of hardwood forest that is potential NSO nesting habitat/foraging habitat; this area is approximately 11 acres in size. Based on the data in the NSO Occurrence Database, there are no known nest sites or NSO activity centers in or near this area.

Project activities could expose NSO, particularly nest sites with young, to physiological stress from construction noise and/or visual disturbance; however, based on the available nesting data, there do not appear to be any nesting sites close enough to the Project footprint to be adversely affected by the proposed Project. Construction would not occur in-line of site of suitable nesting habitat, which includes the 295-foot, 82 dBA noise tolerance threshold (USFWS 2020). Pre-construction NSO surveys would be conducted during the NSO breeding season to ensure no NSO or active nests are within the 330-foot visual line of disturbance

contour (which includes the 295-foot, 82 dBA noise tolerance threshold) of the Project site.

There are 1.11 acre of potentially suitable NSO foraging habitat in the Project footprint, in the form of conifer forest and hardwood forest. Work associated with the proposed Project would temporarily affect 0.79 acre and permanently affect 0.32 acre of potentially suitable NSO foraging habitat. Only two large trees (greater than 30 inches at breast height) within the Project footprint have potential to be impacted via removal or trimming. However, these trees are not anticipated to be used for nesting due to their proximity to the roadway. Additionally, trees would be removed between October 1 and January 31, outside of the NSO breeding season.

Implementation of PF-BIO-6 and PF-BIO-7, in addition to AMM-BIO-7 through AMM-BIO-8, as summarized in Appendix B, would reduce, avoid, or minimize impacts to CRLF and its habitat. The impact would be less than significant.

b) Less Than Significant Impact

There would be 0.01 acre of permanent impacts to riparian forest habitat as mapped along the Russian River in the Project footprint, as a result of the installation of RSP at the cross-road culvert outfall. No direct tree removal in the riparian forest is anticipated by the Project. Permanent impacts to riparian habitat would be minimized to the degree possible. The impact would be less than significant.

c) Less Than Significant Impact

A U.S. Army Corps of Engineers (USACE) aquatic resource delineation was conducted for federally protected wetlands and other waters as defined by Section 404 of the Clean Water Act. Two small freshwater emergent wetlands were delineated along the westbound lane of SR 116, where the poorly functioning existing culvert and insufficient maintenance of roadside ditches allows water to pool for extended periods. Within the BSA, 57 square feet of freshwater emergent wetland and 148 square feet of combined Intermittent Drainage and Culverted Waters (other waters) were found.

Potential permanent impacts to aquatic resources may occur to approximately 67 square feet of potential waters of the U.S. and State, including 57 square feet of freshwater emergent wetland and 10 square feet (6.5 linear feet) of other waters of the U.S. and State. Construction activity could also result in temporary indirect impacts

to aquatic resources. Indirect impacts could include reduced water quality from increased erosion and sedimentation. These impacts would be avoided or minimized through implementation of the water quality BMPs.

With the implementation of PF-BIO-3, PF-BIO-5, PF-BIO-8, PF-BIO-9, PF-BIO-12 and AMM-HYD-1, the Project would result in a negligible contribution to cumulative impacts on jurisdictional wetlands and waters. The impact would be less than significant.

d) No Impact

The Project would not construct barriers to wildlife movement or interfere with established native resident or migratory wildlife corridors. The Project is not anticipated to affect any habitat's long-term suitability to support wildlife corridors or other animal movements in the future. Ground-disturbing activities would not occur within the Russian River. The Project would not create barriers to fish movement. The Project would not impede the use of native wildlife nursery sites. There would be no impact.

e) No Impact

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

f) No Impact

The Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan. There would be no impact.

PROJECT FEATURES

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

- PF-BIO-1, A Permit Compliance Binder would be maintained at the construction site at all times and presented to resource agency (e.g., USACE, National Marine Fisheries Service (NMFS), USFWS, RWQCB, State Lands Commission, and/or CDFW) personnel upon request. The Permit Compliance Binder would include a copy of all original permits and agreements and any extensions and amendments to the permits and agreements.

- PF-BIO-2, Except as they are contradicted by measures within the permits and agreements, all work would be conducted in conformance with the project description in the permits and agreements and the AMMs provided in the permits and agreements.

- PF-BIO-3, Work in the bed, bank, or channel of aquatic resources, and in any associated riparian habitat, would only be conducted during periods of dry weather. Forecasted precipitation would be monitored. When 0.25 inch or more of precipitation is forecasted to occur, work would stop before precipitation commences. No Project activities would be started if their associated erosion control measures cannot be completed prior to the onset of precipitation. After any storm event, all sites currently under construction and all sites scheduled to begin construction within the next 72 hours would be inspected for erosion and sediment problems, and corrective action would be taken as needed; 72-hour weather forecasts from the National Weather Service would be consulted, and work would not start back up until runoff ceases, and there is less than a 50 percent forecast for precipitation for the following 24-hour period.

- PF-BIO-4, Prior to the start of construction, a biologist would provide a training session for all work personnel to identify any sensitive species that may be in the area, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later would receive the same training before beginning work. Upon completion of the education program, employees would sign a form stating they attended the program and understand all protection measures. A pamphlet that contains images of sensitive species that may occur within the Project area, ESAs within the Project area, key avoidance measures, and employee guidance would be given to each person who completes the training program. These forms would be made available to the resource agencies upon request.

- PF-BIO-5, Before construction begins, ESAs would be clearly delineated using high-visibility orange fencing, flagging, or similar marking to delineate sensitive habitats, including rare plants. The ESA marking would remain in place throughout construction. It may be removed during the wet season (and subsequently reinstalled) if needed to prevent materials from being washed away. The final Project plans would depict all locations where ESA markings would be installed and the manner of installation. The bid solicitation package special provisions would clearly describe acceptable marking material and prohibited

construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. ESA markings would be maintained in good condition throughout the Project as needed.

- PF-BIO-6, If Project activities occur between February 1 and September 30, then a pre-construction survey would be conducted for nesting birds no more than 3 days before construction. If active nests are found, then an appropriate buffer would be established, and the nest would be monitored for compliance with the Migratory Bird Treaty Act and California Fish Game Code Section 3503.

- PF-BIO-7, If an active bird nest is found during construction activities, then the following ESA buffers would be established: If an active raptor nest is observed, a 300-foot ESA buffer would be implemented to avoid affecting the young until they have fledged; if an active nest of migratory bird other than a raptor is observed, a suitable ESA buffer would be determined by a qualified biologist and implemented to protect the young until they have fledged, or as otherwise determined by consultation with USFWS and CDFW regarding appropriate action to comply with the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.

- PF-BIO-8, Water pollution control and erosion control BMPs would be developed and implemented to minimize wind- or water-related erosion. They would follow the requirements of the RWQCB and standards outlined in Construction Site Best Management Practices Manual (Caltrans 2017). At a minimum, protective measures would include the following:

    1. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

    2. Maintaining equipment to prevent the leakage of vehicle fluids, such as gasoline, oils, or solvents. Hazardous materials such as fuels, oils, solvents, etc. would be stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats.

    3. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance, at least 50 feet from aquatic habitat unless separated by a topographic or engineered drainage barrier.

4. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts, located at least 50 feet from watercourses.

5. Maintaining spill containment kits onsite at all times during construction operations, staging, and fueling of equipment.

6. Using water trucks and dust palliatives to control dust in unvegetated areas and covering of temporary stockpiles when weather conditions require.

7. Protecting graded areas from erosion using a combination of silt fences, fiber rolls, or straw wattles along toes of slopes or along edges of designated staging areas; erosion control netting (jute or coir); hydraulic mulch; temporary cover; drainage inlet protection; or other appropriate sediment control methods. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material would not be used. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds.

- PF-BIO-9, The following site restrictions would be implemented to avoid or minimize potential impacts on sensitive biological resources:

1. Enforcing a speed limit of 15 miles per hour for Project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance.

2. Locating construction access, staging, storage, and parking areas within the Caltrans ROW and outside of any designated ESA to the extent practicable. Access routes, staging and storage areas, and contractor parking would be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork would be clearly marked before initiating construction.

3. Certifying that borrow material is nontoxic and weed free.

4. Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.

5. Prohibiting pets from entering the Project area during construction.

6. Prohibiting firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

- PF-BIO-10, To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor would be required to contain the noxious weed plant material and dispose of it in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would be replanted with fast growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project area would be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

  If work occurs in sensitive habitat, vehicles and equipment would be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

- PF-BIO-11, Vegetation would be cleared only where necessary and would be cut above soil level, except in areas that would be permanently affected or excavated. This would allow plants that reproduce vegetatively to resprout after construction.

- PF-BIO-12, Temporarily disturbed areas would be restored. Exposed slopes and bare ground would be reseeded with native grasses to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted, based on the local species composition.

- PF-BIO-13, A habitat assessment would be conducted for potentially suitable bat roosting habitat prior to construction activities. If the habitat assessment reveals that any structures are suitable roosting habitat for bats, then the appropriate exclusionary measures would be implemented prior to construction during the period from March 1 to April 15 or August 31 to October 15. Potential avoidance may include exclusionary blocking or filling potential cavities with foam, visual

monitoring, and/or staging Project work to avoid bats. If bats are known to use the structures, then exclusion netting would not be used.

If the habitat assessment reveals suitable bat habitat in trees, and tree removal is scheduled from April 16 through August 30 and/or October 16 through February 28, then presence/absence surveys would be conducted 2 to 3 days prior to any tree removal or trimming. If presence/absence surveys are negative, then tree removal would proceed following a two-phase tree removal system. If presence/absence surveys indicate bat occupancy, then the occupied trees would only be removed from March 1 through April 15 and/or August 31 through October 15 by following the two-phase tree removal system. The two-phase system would be conducted over 2 consecutive days. On the first day (in the afternoon), limbs and branches are removed by a tree cutter using chainsaws or other hand tools. Limbs with cavities, crevices, or deep bark fissures are avoided and only branches or limbs without those features are removed. On the second day, the entire tree would be removed.

Bats would not be disturbed without specific notice to, and consultation with, CDFW.

- PF-BIO-14, To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep would be covered at the close of each workday by plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than 30 degrees. Before such holes or trenches are filled, they would be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight would be inspected before they are subsequently moved, capped, or buried.

- PF-BIO-15, For unavoidable nighttime work, all lighting would be shielded and directed downward toward the active construction area to avoid exposing nocturnal wildlife to excessive glare.

AVOIDANCE AND MINIMIZATION MEASURES

AMM-BIO-1 through AMM-BIO-10 would avoid or minimize impacts to biological resources.

- AMM-BIO-1, During the spring season prior to construction, Caltrans would conduct focused pre-construction surveys for the rare plants identified as having

potential to occur in the Project area. The extent and abundance of the rare plants would be mapped and flagged in the field for future relocation, salvage, and transplantation. These surveys would be conducted during the season that the rare plants are detectable and in the correct phenological stage of development for correct identification (typically late spring).

If a rare plant is identified within the Project area during the pre-construction survey, a rare plant transplantation plan would be prepared. The transplantation plan would be submitted to the regulatory agencies for approval prior to the beginning of construction. The rare plant salvage and transplantation plan would include salvage and replanting methods, success criteria, the establishment of photo points, and monitoring methods. The rare plant salvage and transplantation plan would be prepared and approved by the regulatory agencies prior to the beginning of construction.

- AMM-BIO-2, Preconstruction surveys for CRLF would be conducted by the USFWS-approved biologist(s) no more than 24 hours prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) beyond the existing pavement. These efforts would consist of walking surveys of the Project footprint focusing on the mesic areas at the existing culvert intake and outfall and, if possible, on accessible adjacent areas of upland habitat within at least 50 feet of the Project footprint. The biologist(s) would investigate potential cover sites when it is feasible and safe to do so. This includes a thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the Project footprint would be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the biologist(s) would investigate areas of disturbed soil for signs of frogs within 30 minutes following initial disturbance of the given area.

- AMM-BIO-3, Prior to the start of construction, wildlife exclusion fencing (WEF) would be installed along the Project footprint in areas where CRLF could enter the Project site. The WEF location would be surveyed and included on the Project plans. The final Project plans would show where and how the WEF would be installed. The special provisions in the bid solicitation package would clearly describe acceptable fencing material and proper WEF installation and maintenance. The WEF would remain in place throughout the duration of the Project and would be regularly inspected and maintained.

- AMM-BIO-4, The USFWS-approved biologist would appoint a biological monitor (e.g., the crew foreman) who would be responsible for ensuring that all crew members comply with permit guidelines. Environmental training would be conducted for new personnel before they can participate in construction activities. The approved biologist would notify the Resident Engineer who would address any work stoppage, and the Service would be contacted if a CRLF is encountered during Project activities.

- AMM-BIO-5, If a CRLF is encountered in the immediate work area, the following procedures would be followed:

    1. If a CRLF is discovered during surveys or proposed work activities, the resident engineer and USFWS-approved biologist(s) would be immediately informed. If a CRLF gains access to a construction zone, work would be halted immediately within 50 feet until the animal leaves the construction zone.

    2. The USFWS-approved biologist(s) would have the authority to halt work through coordination with the resident engineer if a CRLF is discovered within the Project footprint. The resident engineer would ensure construction activities remain suspended in any construction area where the qualified biologist(s) has determined that a potential take of the CRLF could occur. Work would resume once the animal leaves the site voluntarily, or it is determined that the CRLF is not being harassed by construction activities.

    3. Caltrans would submit post-construction compliance reports prepared by the biologist to the USFWS within 60 calendar days following completion of Project activities or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report would detail (1) dates that relevant Project activities occurred; (2) pertinent information concerning the success of the Project in implementing avoidance and minimization measures for listed species; (3) an explanation of failure to meet such measures, if any; (4) known Project effects on the CRLF, if any; (5) documentation of employee environmental education; and (6) other pertinent information.

- AMM-BIO-6, An approved biologist would conduct pre-construction surveys for western pond turtle as needed. A visual encounter survey would be conducted immediately before ground-disturbing activities. Suitable habitat within the

Project footprint would be visually inspected. If western pond turtle (WPT) is found within the Project footprint and at risk of harm, then it would be relocated outside of the Project footprint by the approved biologist.

- AMM-BIO-7, To ensure that potential adverse noise or visual impact effects on NSO are avoided and/or minimized, a preconstruction survey would be conducted during the NSO breeding season in areas of potential NSO habitat within the 330-foot visual line of disturbance contour (which includes the 295-foot, 82 dBA noise tolerance threshold) of the Project site. The focus of the survey should be on the detection of the species and potential active nest sites that could be affected by the proposed Project.

  If an active nest is found within the 330-foot contour visual line of disturbance, the start of construction would be delayed until the young have fledged. NSO young generally leave the nest (that is, fledge) in late May or June. If an active nest is found within the 330-foot visual line of disturbance contour it would be monitored by a USFWS-approved biologist to document when the young have left the nest and construction can start.

- AMM-BIO-8, To minimize noise generated from the proposed Project to the degree possible, all construction equipment, fixed or mobile, would be fitted with properly operating and maintained mufflers consistent with manufacturers' standards.

- AMM-BIO-9, If clearing and grubbing occurs between May 1 and September 1, an agency-approved bat biologist would conduct visual and acoustic bat surveys for roosting, or evidence of roosting. The bat biologist would visually inspect tree foliage, bark, and cavities, and any other structures that could provide roosting habitat for bats. If a maternity colony is discovered, construction activity, including tree removal and vegetation trimming, would cease within 100 feet of the colony, and Caltrans would coordinate with CDFW for technical assistance.

- AMM-BIO-10, Trees would be removed using a two-step process to avoid take of bats and minimize potential disturbance to roosting habitat. If observed during pre-construction surveys, ESA fencing would be installed to protect the roosting trees before construction begins, and the Project biologist would coordinate with USFWS and/or CDFW for technical assistance.

3.3.5 Cultural Resources

Would the Project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR CULTURAL RESOURCES

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

There were no identified sacred sites in the Project footprints. Caltrans contacted the Native American Heritage Commission (NAHC) on April 10, 2020, requesting a review of their Sacred Lands File for tribal resources that may be within or near the Project area. On April 13, 2020, the NAHC provided a list of interested Native American individuals and organizations for further consultation. Emails requesting input along with a Project area map were sent to each of the listed parties on April 15, 2019. Ryan Peterson, Administration & Projects Coordinator for Middletown Rancheria, responded by email on April 20, 2020 stating that the Project is not within the aboriginal territories of the Middletown Rancheria and declined to comment on the Project. On April 24, 2020, by email Brenda Tomaras for Lytton Rancheria of California, responded that Lytton Rancheria requests that any known resources be secured by ESAs and would support if any other tribe wishes to monitor in some areas. On May 28, 2020, an email response from Elaini Vargas, Cultural & Tribal Preservation Advisor for the Kashia Band of Pomo Indians of Stewarts Point, stated there were no comments or concerns with the Project. On May 28, 2020, an email response from Meyo Marrufo, Environmental Director for Guidiville Indian Rancheria, was received stating there were no comments or concerns with the Project, and they would defer to Stewart's Point Rancheria. Follow-up phone calls were made in June 2020 describing the current Project elements and record search results. On June 10, 2020, Graton Rancheria Tribal Historical Preservation (THPO) Buffy McQuillen requested that the Project description and location be resent with a new email being sent June 10, 2020. Voicemails were left for Lynn Laub, Executive

Assistant at Dry Creek Rancheria, and Chairperson Ms. Patricia Hermosillo, Cloverdale Rancheria of Pomo Indians.

The voicemail box for Chairperson Scott Gabaldon, Mishewal-Wappo Tribe of Alexander Valley was full. No further responses have been received as of this report. Since there are no built architectural resources in the Area of Potential Effect (APE), historical societies or groups were not consulted for this Project.

In accordance with Stipulation IX.A of the Programmatic Agreement (FHWA 2014), a finding of No Historic Properties Affected is appropriate for this undertaking as no historic properties are present.

a and b) No Impact

There are no cultural resources in the Project area. Therefore, there would be no impact.

c) Less Than Significant Impact

California law recognizes the need to protect interred human remains, particularly Native American burial sites and associated items of patrimony, from vandalism and inadvertent destruction. The procedures for the treatment of discovered human remains are contained in the California Health and Safety Code Sections 7050.5 and 7052, and California Public Resources Code Section 5097.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, all such activities within a 100-foot radius of the find would be halted immediately and the Project's designated representative would be notified. The contractor would immediately notify the Sonoma County coroner, Caltrans, and a qualified archaeologist. The coroner is required to examine the discovery of human remains within 48 hours of receiving notification of such a discovery on private or state lands (California Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making the determination (California Health and Safety Code Section 7050.5[c]). The Project's designated representative would be responsible for acting upon notification of discovery of Native American human remains, as identified in detail in California Public Resources Code Section 5097.9. The Project's designated representative and the professional archaeologist would contact the Most Likely Descendent (MLD), as

determined by the NAHC, regarding the remains. The MLD, in cooperation with the property owner and Caltrans, would determine the ultimate disposition of the remains.

Implementation of PF-CULT-1 would reduce the impact to cultural resources to less than significant.

PROJECT FEATURES

Caltrans would incorporate the following standard PF into the Project to reduce unanticipated impacts to cultural resources:

- PF-CULT-1, If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find.

3.3.6 Energy

Would the Project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

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

a) Less Than Significant Impact

Activities that consume energy generate byproducts. Greenhouse gases (GHGs) are the most extensively studied byproducts of energy consumption because they are linked to climate change. To assess energy consumed by construction vehicles and equipment, the Caltrans-developed Construction Emissions Tool 2020 (CAL-CET 2020), version 1.0, was used to quantify carbon dioxide (CO_2) emissions. The U.S. Environmental Protection Agency's (EPA's) GHG equivalencies formulas were used to convert CO_2 to fuel volumes. It was assumed diesel would be used for all construction vehicles and equipment (Caltrans 2022d). Construction vehicles and equipment are anticipated to consume approximately 49,901.77 gallons during construction of the Project (Caltrans 2022e).

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

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

b) No Impact

The purpose of the Project is to stabilize the slope to the west of SR 116 to current safety standards as well as implementing stormwater and safety features. As such, the Project would not result in change in traffic volumes, vehicle mix, or other factors that would cause an increase in energy consumption of the Project. The Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with a state or local plan for renewable energy or energy efficiency. Therefore, the Project would not conflict with the regional/statewide goals on renewable energy or energy efficiency. There would be no impact.

PROJECT FEATURES

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

- PF-ENERGY-1, Recycle Waste and Materials: Recycle nonhazardous waste and excess materials offsite to reduce disposal, if feasible.
- PF-ENERGY-2, Solar Energy: Use solar energy as the energy source for construction equipment, such as, but not limited to, signal boards, if feasible.
- PF-ENERGY-3, Use regular vehicle and equipment maintenance.

3.3.7 Geology and Soils

Would the Project:

Question	CEQA Determination
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No Impact
(ii) Strong seismic ground shaking?	No Impact
(iii) Seismic-related ground failure, including liquefaction?	No Impact
(iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

CEQA Significance Determinations for Geology and Soils

A Geologic and Palaeontologic Analysis was prepared by the Caltrans Office of Geotechnical Design—West (Caltrans 2022f). A summary of the findings is presented here.

The Project is located within the central portion of the Coast Ranges Geomorphic Province of California. The dominant feature of the province is the San Andreas Fault, an approximately 800-mile-long fault zone that forms the dividing line between major tectonic plates, with the Pacific Plate situated west of the San Andreas Fault and the North American Plate situated east of the San Andreas Fault. The Project is located approximately 10 miles east of the San Andreas Fault (Bryant 2002).

The undifferentiated Quaternary moderately constrained Mt. Jackson fault zone is located approximately 1 mile west of the Project location. The Rodgers Creek Fault which is a part of the larger Hayward fault is a continuously active fault zone that

extends approximately 118 miles to the northern margin of San Pablo Bay. This fault is located approximately 16 miles East of the Project location.

The Project would be located entirely within Franciscan Complex Melange above and below the highway. Franciscan Complex Melange consists of rock blocks of variable composition and strength in a matrix of weak, often sheared, mudstone.

The soils in the Project area are mapped as Hugo very gravelly loam (HkG). General information on these soils was obtained from the National Resources Conservation Service web soils survey and official soil series descriptions (NRCS 2022).

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

The Project would be subjected to strong ground shaking from nearby faults; however, the potential for fault rupture does not exist at the Project site. The Project does not directly or indirectly increase the potential for surface rupture, or strong ground shaking, or expose the public to increased risk of loss, injury, or death.

There would be disturbance to the native ground or native subsurface from this Project; however, Project components would not be constructed in areas of soft, erodible, expansive, or collapsible soils, and BMPs would be used to minimize erosion during construction activities.

The Project is not located on a geologic or soil unit that is unstable, and no septic tanks or alternative wastewater delivery systems would be constructed or affected by the Project. In addition, no sensitive palaeontologic resources would be encountered. Therefore, no impact would occur.

3.3.8 Greenhouse Gas Emissions

Would the Project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR GREENHOUSE GAS EMISSIONS

A Construction Greenhouse Gas Emissions Analysis memorandum was completed for the Project (Caltrans 2022e). This section summarizes the findings of this review.

a) Less Than Significant Impact

Construction-generated GHGs include emissions resulting from construction equipment, workers commuting to and from the Project, and traffic delays due to construction of the Project. The emissions would be produced at different rates throughout the Project, depending on the construction-related activities occurring in the three phases of construction. CO_2 is a more important GHG pollutant due to its abundance when compared with other GHG emitted from vehicles and equipment, including methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbon, and black carbon.

The construction-related GHG emissions were calculated using the Caltrans CAL-CET 2020 tool. The Project is anticipated to emit approximately 508 tons of CO_2, 0.016 ton of CH_4, 0.027 ton of N_2O, and 468.64 metric tons of carbon dioxide equivalent (CO_2e) during construction The Project would not increase operational capacity and therefore would not generate long-term GHG emissions.

The Project would implement Caltrans Standard Specifications such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract and the use of construction BMPs to minimize or reduce short-term GHG emissions from construction activities. PF-AQ-2, PF-AQ-3, PF-ENERGY-1, PF-ENERGY-2 and PF-ENERGY-3, as discussed in Sections 3.3.3 and 3.3.6 would reduce air emissions, energy consumption, and GHG emissions to the maximum feasible extent.

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

b) No Impact

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

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

3.3.9 Hazards and Hazardous Materials

Would the Project:

Question	CEQA Determination
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less Than Significant Impact

CEQA Significance Determinations for Hazards and Hazardous Materials

Three residential properties are located approximately between 100 and 300 feet west of the Project location. Additionally, SR 116 is a public highway, with motorists and bicyclists frequently traveling along the route.

a, b) Less Than Significant Impact

The Project would not involve the routine transport or use of hazardous materials when the Project becomes operational. During construction, Caltrans' Standard Specifications would be implemented to prevent spills or leaks from construction equipment and from storage of fuels, lubricants, and solvents. All aspects of Project construction associated with removal, storage, transportation, and disposal of hazardous materials would be done in accordance with the appropriate California Health and Safety Code. Handling of hazardous materials would comply with Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, which outlines handling, storage, and disposal of hazardous waste.

Based on past site investigation work in this general area of the SR 116 corridor, the excavated shallow soils are expected to have a very limited accumulation of aerially deposited lead due to the rural area's low traffic volumes during the era of leaded fuel use. Furthermore, the deeper excavations for the retaining wall foundations are expected to displace soils that have no aerially deposited lead contamination, just background concentrations of lead in the soils. Thus, at this time a subsurface site investigation is not needed to characterize the lead contamination levels within the Project footprint.

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

c) No Impact

No existing or proposed school is within 0.25 mile of the Project. The nearest existing school is Monte Rio elementary school, a little less than one miles south of the Project footprint. Furthermore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during operation. No impacts to schools would result from the Project.

d) No Impact

Screening of environmental regulatory databases, including the State Water Resources Control Board's GeoTracker and California Department of Toxic Substances Control's EnviroStor, revealed no known hazardous materials or hazardous waste sites in the immediate vicinity of the Project. The closest cleanup site is across the river half a mile away named Russian River Treatment Plant (T0609792509) which was remediated in 2008 (SWRCB 2022).

The Project is not located on a site that is included on hazardous materials sites compiled pursuant to Government Code Section 65962.5 therefore, no impact would result from the Project.

e) No Impact

No Project components, including construction equipment, would reach heights or have elements that have the potential to pose a safety hazard to airport operations.

Additionally, there are no private nor public airports within two miles of the Project's location. Furthermore, the Project would not generate excessive noise that would impact people residing or working in the Project footprints, as discussed in Section 3.3.13. No impact on airports would result from the Project.

f) Less Than Significant Impact

The Project would require the temporary closure of the westbound lane of SR 116 within the Project limits. Potential localized delays to traffic along SR 116 would result from the temporary lane closures and one-way alternating traffic control during construction. A Traffic Management Plan (TMP) as discussed in Section 3.3.17 would be prepared prior to the beginning of construction, and would identify traffic delays and alternative routes. Emergency service response times are not anticipated to change during construction because the TMP would provide priority to emergency vehicles during traffic control. The TMP would include instructions for response or evacuation in the event of an emergency, such as an earthquake or wildfire. In addition, the Project would not conflict with the Sonoma County Emergency Operation Plan (Sonoma County 2022a) or other emergency response or evacuation plans. The impact on adopted emergency response plans or emergency evacuation plans caused by the Project would be less than significant.

g) Less Than Significant Impact

California Department of Forestry and Fire Protection (CAL FIRE) designates the Project area as a Moderate Fire Hazard Severity Zone (State Resource Area). Russian River Fire Protection located in Guerneville, Monte Rio Fire Protection District, and volunteer fire companies operating through the County of Sonoma Emergency Readiness Response and Recovery, as well as CAL FIRE, provide fire suppression, rescue, and emergency services within the Project corridor. Monte Rio Fire Protection District is located a little under a mile to the south in Monte Rio while the Russian River Fire Protection is located a mile and a half north in Guerneville.

During construction, equipment may be used that have the potential to increase the risk of wildfire. However, construction crews would be equipped with standard incipient stage fire suppression equipment such as fire extinguishers and shovels. Professional fire services are stationed nearby and would be contacted immediately in the event of a fire. The Project does not have permanent components that would expose people or structures to risk of loss, injury, or death involving wildland fires. Impacts from the Project that would expose people or structures, either directly or

indirectly to a significant risk of loss, injury, or death involving wildland fires, would be less than significant.

3.3.10 Hydrology and Water Quality

Would the Project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the Project may impede sustainable groundwater management of the basin?	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;	Less Than Significant Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Less Than Significant Impact
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Less Than Significant Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

CEQA Significance Determinations for Hydrology and Water Quality

A Water Quality Study was prepared by the Caltrans Office of Water Quality and a Hydraulics Memorandum was prepared by the Caltrans Office of Hydraulic Engineering (Caltrans 2022g and h). A summary of the findings is presented here.

The Project is located within the jurisdiction of Region 1 of the North Coast RWQCB, which is responsible for the implementation and enforcement of state laws and regulations concerning water quality. The Project is within the Dutch Bill Creek-Russian River Hydrologic Unit and the Lower Russian River Watershed

The Russian River drains directly into the Pacific Ocean and is included as beneficial uses as part of the Region 1 RWQCB Basin Plan. Additionally, it is listed as an impaired water body under the 2014-16 California Clean Water Act Section 303(d) List (State Water Resources Control Board (SWRCB 2017) for dissolved oxygen, sedimentation, temperature, aluminum, indicator bacteria, mercury and phosphorous.

Russian River has Total Maximum Daily Loads (TMDLs) for Prohibition Against the Discharge of Fecal Waste Materials to reduce the pathogens.

The anticipated disturbed-soil area is approximately 0.95 acre, and the anticipated new impervious surface (NNI) is approximately 0.05 acre. No replaced impervious surface is anticipated and therefore the net new impervious is anticipated to be approximately 0.25 acres.

Per Federal Emergency Management Agency (FEMA) mapping, the Project is located in Zone AE (100-year) floodplain. Zone AE floodplains are Special Flood Hazard Areas that have a 1-percent-annual-chance flood hazard. A Regulatory Floodway indicates a water course and the adjacent land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

a) Less Than Significant Impact

The Russian River is in the 2014-2016, 303(d) listed impaired water bodies for the listed pollutants. These includes dissolved oxygen, sedimentation, temperature, aluminum, indicator bacteria, mercury and phosphorous. The Russian River is also a sediment-sensitive waterbody. The receiving water body is the Pacific Ocean.

The SWRCB issued a statewide Construction General Permit (CGP) for construction activities (2009-0009-DWQ, CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ). The CGP applies to stormwater discharges from land where clearing, grading, and excavation result in a Disturbed Soil Area (DSA) of 1 acre or greater. Projects subject to the CGP require a Stormwater Pollution Prevention Plan (SWPPP) per Caltrans Standard Specification 13, “Water Pollution Control.” The expected DSA would be 0.95 acres; therefore, this Project’s construction activities are subject to the CGP. A SWPPP would be provided to control all the potential temporary construction impacts resulting from the Project. PFs HYD-1 Water Quality Best Management Practices and HYD-2 D Water Pollution Control Program, would reduce impacts to less than significance.

Temporary construction-related water quality impacts may include, but are not limited to, the following:

- Ground-disturbing activities
- Concrete curing and waste

- Vegetation removal
- Oil and grease from construction vehicles and equipment
- Sanitary wastes and other waste material
- Chemicals used for construction equipment and restriping

Implementation of Caltrans construction site BMPs and Design Pollution Prevention (DPP) temporary construction BMPs listed under PF-HYD-1, as summarized in Appendix B, would prevent and minimize temporary impacts to water quality and facilitate adherence to the applicable TMDLs.

DPP temporary construction BMPs and treatment BMPs are required for this Project because the DSA is 0.95 acres and NIS is greater than 5,000 square feet. (10,890 square feet) in Region 1 RWQCB. All soil areas disturbed by construction activities that won't ultimately be paved would be treated with permanent erosion control measures which may include decompaction, compost amendment/mulch, fiber rolls, coir netting, and/or hydroseed/hydromulch. Vegetation outside the construction limits would be protected from activities with a high visibility fence.

To comply with the conditions of the Caltrans National Pollutant Discharge Elimination System (NPDES) permit and to further reduce impacts associated with water quality and hydrology, a Water Pollution Control Program (WPCP) would be completed and implemented prior to the beginning of construction. Potential water quality impacts would be reduced to the maximum extent practicable through proper implementation of the WPCP and inclusion of the standard special provisions (SSPs) for Temporary Construction Site BMPs in the Project. As a result, Project 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), (ii), (iii), (iv)) Less Than Significant Impact

While the Project is constructing 5 new drainage inlets and adding an addition 0.25 acres of impervious surfaces, the Project would not result in substantial erosion on or off site, substantially increase the surface runoff, create or contribute to runoff water which would exceed the capacity of stormwater drainage nor impede or redirect flows. As discussed for item b), implementation of Caltrans construction site BMPs

PF-HYD-1, and PF-HYD-2, as summarized in Appendix B, would minimize erosion, siltation, and the discharge of polluted runoff on- or offsite. The anticipated NNI for the Project is approximately 0.25 acre and would result in a slight increase in runoff. This minimal increase in runoff would not be substantial enough to increase flooding on- or offsite, nor would it impede or redirect flood flows. Therefore, the impact would be less than significant.

d) No Impact

The Project is not located within a tsunami zone (California Department of Conservation 2020) or seiche but is located within a Special Flood Hazard Area (Sonoma County 2006). However, as discussed in items a) and c), the Project would not contribute new substantial sources of runoff or pollutants or result in increased flooding. Because of the limited nature of the work, no floodplain impacts are anticipated. In the case of Project inundation, the release of substantial pollutants is not anticipated.

e) No Impact

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

PROJECT FEATURES

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

- PF-HYD-1, Water Quality Best Management Practices. This Project would require a SWPPP, which would provide guidance on erosion control BMPs to be implemented to minimize wind- or water-related erosion. These BMPs would also be implemented via language in the *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017), which provides guidance for including provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. BMPs would include wind erosion controls (such as temporary covers, hydraulic mulch, hydroseeding and wood mulching), and drainage inlet protection. This may include:
    - Soil Stabilization: Scheduling, Preservation of Existing Vegetation, Slope Protection, Slope Interrupter Devices, and Channelized Flow;

  - Sediment Control: Temporary Fiber Rolls, Temporary Silt Fence and Storm Drain Inlet Protection;
  - Tracking Controls: Stabilized Construction Entrance/Exit, and Street Sweeping;
  - Wind Erosion Controls; Hydraulic Mulch and Temporary Covers;
  - Non-storm Water Management: Water Conservation Practices, Dewatering Operations, Paving and Grinding Operations, Potable Water/Irrigation, Vehicle and Equipment Operations (Fueling, Cleaning and Maintenance), Concrete Waste Management, and Material & Equipment Use;
  - Waste Management and Materials Pollution Control: Material Delivery and Storage, Material Use, Stockpile Management, Spill Prevention and Control, Solid & Concrete Waste Management, Hazardous Waste & Contaminated Soil Management, and Sanitary/Septic & Liquid Waste Management.

- PF-HYD-2, Water Pollution Control Program: A WPCP would be prepared by the contractor and approved by Caltrans, pursuant to the 2018 Caltrans Standard Specifications Section 13, Water Pollution Control, and the Caltrans WPCP Preparation Manual, and implemented prior to the beginning of construction.

3.3.11 Land Use and Planning

Would the Project:

Question	CEQA Determination
a) Physically divide an established community?	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact

The Project is located within the Sonoma Valley Planning Area of the Sonoma County General Plan.

CEQA Significance Determinations for Land Use and Planning

The Project is located on SR 116 at PMs 9.4-9.55, approximately 0.2 mile south of the Guerneville of SR 116 and Bonneau Road. The area is zoned as rural development/residential & resources.

a and b) No Impact

The Project would not physically divide an established community and complies with the stated goals of the Sonoma County General Plan, including goals for the land use element (Sonoma County 2020a) and the circulation and transit element (Sonoma County 2020b). Therefore, there would be no impact.

3.3.12 Mineral Resources

Question	CEQA Determination
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact

CEQA Significance Determinations for Mineral Resources

a and b) No Impact

The Project occurs within the Mineral Resource Zone (MRZ) category MRZ-3a, which Sonoma County designates as *"areas containing known mineral occurrences of undetermined mineral resource significance"* (Miller et al. 2005). However, the Project would not disturb mineral resources, if present, and would not result in the loss of availability of a known mineral resource or locally important mineral resource recovery site. Therefore, no impact would occur.

3.3.13 Noise

Would the Project result in:

Question	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant Impact
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	Less than Significant Impact

CEQA SIGNIFICANCE DETERMINATIONS FOR NOISE

There are three residential homes within 400 feet of the Project footprint. Two permanent homes and a mobile home, all to the west. The closest house of the three is located roughly 100 feet west of the Project location and the furthest of the three is roughly 300 feet away.

a, b, c) Less Than Significant Impact

The Project would not permanently increase ambient noise levels in the vicinity of the Project. The Project footprint includes SR 116, which creates background noise levels for nearby residents. The Project would not change operational capacity or increase long-term ambient noise levels.

The 2018 Caltrans Standard Specifications section 14-8.02 Noise Control specifies that the highest sound level measured during a single noise event (Lmax) is not to exceed 86 dBA at 50 feet from the job site between 9:00 PM and 6:00 AM. The noisiest operation would be the replacement/modification of drainage system and highway widening with paving, which both produce 89.6 dBA (Lmax) at a distance of 50 feet. However, at distance of 100 feet, where the nearest residential home is located, the noise levels are below 86 dBA. The lack of permanent operational impacts from noise, along with compliance with Caltrans' Standard Specifications, would reduce the potential construction noise impacts to a less than significant level.

In the event that the construction noise exceeds or is expected to exceed the applicable contract specifications and criteria, then the measures listed in AMM-NOISE-1 through AMM-NOISE-7, would be implemented to reduce the

potential for noise impacts, thereby reducing construction impacts to less than significant levels.

The Project would potentially expose noise-sensitive receptors to a short-term increase in noise levels during construction, but the increase would be temporary. While most construction-related activities would occur during daytime hours, construction noise may be experienced for short durations during nighttime hours.

The Project would not create excessive groundborne vibration or groundborne noise levels. Increases in noise levels from construction activities would be temporary. Following construction, noise levels would not change from existing levels. Therefore, impacts would be less than significant.

As described in Section 3.3.9, there are no airports are within 2 miles of the Project; thusly, there would be no impact to any private or public airstrip.

The lack of permanent operational impacts from noise, along with compliance with Caltrans' Standard Specifications, would reduce the potential construction noise impacts to a less than significant level.

AVOIDANCE AND MINIMIZATION MEASURES

Caltrans would incorporate AMM-NOISE-1 through AMM-NOISE-7 in the Project to avoid or minimize potential impacts from noise.

- AMM-NOISE-1, If feasible schedule construction activities during the day, 6:00 a.m. to 9:00 p.m.
- AMM-NOISE-2, Careful planning of tasks such that equipment producing the highest noise levels are operated between 6:00 a.m. to 9:00 p.m.
- AMM-NOISE-3, Locate staging and storage areas away from residential areas.
- AMM-NOISE-4, Use quieter alternative methods of equipment.
- AMM-NOISE-5, Prevent idling of equipment near sensitive receptors.
- AMM-NOISE-6, Equip all internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the Project site without the appropriate muffler.
- AMM-NOISE-7, If feasible, use solar or electricity as power source instead of diesel generators.

3.3.14 Population and Housing

Would the Project:

Question	CEQA Determination
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

CEQA Significance Determinations for Population and Housing

A draft Community Impacts Assessment was prepared by the Caltrans Office of Environmental Analysis (Caltrans 2022i). A summary of the findings is presented here.

a and b) No Impact

The Project would stabilize the westbound slope of SR 116 within the Project footprint and add additional safety features for the traveling public. New commercial or residential establishments would not be built as a result of the Project. The Project would not increase the operational capacity of SR 116, as additional travel lanes would not be constructed. Construction-related activities would occur within Caltrans and Sonoma County ROW and no additional ROW would be acquired. There are three low income residences west of the Project site and this Project could temporarily impact these residents. Visual and noise minimization methods would be implemented to reduce these temporary impacts during construction.

3.3.15 Public Services

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

CEQA SIGNIFICANCE DETERMINATIONS FOR PUBLIC SERVICES

a) Less Than Significant Impact

Construction of the Project would not result in the provision of new or physically altered governmental facilities or result in a need for new or physically altered governmental facilities, the construction of which has the potential to cause significant environmental impacts. The following agencies provide public services for the Project:

- Monte Rio Fire Protection District (9870 Main St.)
- Russian River Fire Protection (14100 Armstrong Woods Rd.)
- Sonoma County Sheriff – Guerneville Substation (16225 First St.)
- Guerneville School (14630 Armstrong Woods Rd.)
- Monte Rio Elementary (20700 Foothill Dr.)
- Monte Rio Public Beach

To maintain the use of SR 116 for the traveling public and emergency service providers, the Project would temporarily close the westbound lane, with one-way alternating traffic control keeping the other lane open to traffic in both directions. Temporary signals would be installed to stop traffic at either end of the Project, allowing for alternating one way traffic to move through the Project limits. A TMP, as discussed in Section 3.3.17, would be prepared prior to the beginning of construction to minimize impacts to service ratios, response times, and other performance objectives for public services. Traffic impacts would be temporary during construction; therefore, impacts are anticipated to be less than significant.

3.3.16 Recreation

Question	CEQA Determination
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact

CEQA Significance Determinations for Recreation

The nearest recreational facility is Northwood Golf Club which is located approximately 0.5 miles to the east. The nearest public park is Monte Rio Public Beach, located approximately 1 mile south of the Project in Monte Rio. The nearest regional park is Monte Rio Recreation & Park District, located approximately 1 mile south of the Project.

a and b) No Impact

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

3.3.17 Transportation

Would the Project:

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

CEQA SIGNIFICANCE DETERMINATIONS FOR TRANSPORTATION

SR 116 is a two-lane undivided highway connecting the greater Santa Rosa Area to the coast. The Project would widen the highway up to 18 feet in the westbound direction for purpose of maintaining the wall and to provide a larger pullout. No widening would occur in the eastbound direction. The Project would not increase operational capacity, nor would it permanently alter the circulation system, and would have no temporary or permanent impact on vehicle miles traveled (VMT).

a) Less Than Significant Impact

The Project would conflict with the *Caltrans District 4 Bike Plan for the San Francisco Bay Area* (Bike Plan) (Caltrans 2018), which analyzed existing bicycle travel and potential future improvements on SR 116, and the *Sonoma County Transportation Authority (SCTA) Countywide Bicycle and Pedestrian Master Plan* (SCTA Bike and Pedestrian Plan) (SCTA 2014). Within the Project limits, the Bike Plan, as well as the SCTA Bike and Pedestrian Plan, proposes Class II Bikeways along SR 116. Class II Bikeways are bike lanes established along streets and are defined by pavement striping and signage to delineate a portion of a highway for bicycle travel. Bike lanes are typically one-way facilities, typically striped adjacent to motor traffic traveling in the same direction. The Project would not improve bicycle facilities within the Project limits and, therefore, would not address the policies identified in the Bike Plan and the SCTA Bike and Pedestrian Plan.

The Project would also conflict with Director's Policy (DP) 37, Complete Streets (Caltrans 2021). This DP requires that the Project, which is a capital project, provide "complete streets" facilities for pedestrians walking and bicyclists biking within the Project footprint. The Project would not provide complete streets facilities and

justification would be documented with final approval by the Caltrans District 4 Director.

The Project would not conflict with other programs, plans, ordinances, or policies regarding the circulation system, public transit, and bicycle or pedestrian facilities. The Project would maintain and improve existing SR 116, but not increase the capacity of the highway.

To protect construction workers and the traveling public, traffic control would be in place while construction-related activities are underway. A detailed TMP (AMM-TRANS-1, as summarized in Appendix B) would be developed prior to the beginning of construction to aid in coordinating and providing further safety measures for those accessing the Project corridor during construction. Therefore, impacts would be less than significant.

b) Less Than Significant Impact

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

c) No Impact

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

d) Less Than Significant Impact

The Project would not result in inadequate emergency access. With implementation of AMM-TRANS-1, medical and emergency vehicles would be able to continue to use SR 116 for fire, medical, emergency, and law enforcement purposes. The Project has the potential to cause short-term, localized traffic congestion and delays, resulting from one-way traffic control during construction. Detours would not be required during construction. The impact would be less than significant.

AVOIDANCE AND MINIMIZATION MEASURES

AMM-TRANS-1 would avoid or minimize potential impacts to transportation.

- AMM-TRANS-1, Transportation Management Plan: A TMP would be prepared prior to the beginning of construction to aid in coordinating and providing further safety measures for those accessing the Project corridor during construction. The TMP would identify traffic delays and alternative routes for emergency and medical vehicles associated with essential services, and would minimize impacts to service ratios, response times, and other performance objectives for public services. The TMP would provide priority to emergency vehicles during traffic control, as well as include instructions for response or evacuation in the event of an emergency.

3.3.18 Tribal Cultural Resources

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

Question	CEQA Determination
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No Impact

CEQA Significance Determinations for Tribal Cultural Resources

a and b) No Impact

Under Section 106 and Assembly Bill 52, Caltrans sent letters initiating consultation to the identified tribes and individuals. No tribal cultural resources or sacred lands were identified through the consultation process under Assembly Bill 52 or through the archaeological pedestrian survey. No tribe has requested further information or formal consultation as of the date of this document. Therefore, the Project would have no impact on tribal cultural resources.

3.3.19 Utilities and Service Systems

Would the Project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No Impact
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

CEQA Significance Determinations for Utilities and Service Systems

Overhead utility lines are located on the eastbound side of SR 116 and joint utility poles with overhead electrical lines and phone cables are positioned along Old Monte Rio Road. Relocation of these lines is not anticipated because they are not in conflict with the proposed Project. No underground utilities have been identified. A drainage pipe would be installed on the slope above the retaining wall as well as 7 new or replaced drainage inlets withing the Project footprint.

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

The Project would not require or result in the relocation or construction of new or expanded wastewater treatment, electric power, natural gas, or telecommunications facilities. There are 7 drainage inlets would be added or replaced for this Project; however, they would not cause significant environmental effects. The Project is not anticipated to require utility (e.g., gas, electric, telephone, cable, water, and sewer) relocations. Utility verification (i.e., potholing) would occur during the PS&E phase to confirm the need for utility relocations, and if needed, utility relocations would occur prior to the beginning of construction and in consultation with utility providers.

The Project would not require the services of a landfill where the Project would impact its capacity. The Project would not exceed wastewater treatment requirements. The Project would not require water supplies to serve the Project from existing

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

3.3.20 Wildfire

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

Question	CEQA Determination
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less Than Significant Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Less Than Significant Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Less Than Significant Impact

The Project is located along a State Responsibility Area and the Project is not within a very high nor high severity fire area (CAL FIRE 2008 and 2022a and b). Russian River Fire protection located in Guerneville, Monte Rio Fire protection District, and volunteer fire companies operating through the County of Sonoma Emergency Readiness Response and Recovery, as well as CAL FIRE, provide fire suppression, rescue, and emergency services within the Project corridor.

CEQA SIGNIFICANCE DETERMINATIONS FOR WILDFIRE

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

A TMP, as discussed in Section 3.3.17, would be prepared prior to the beginning of construction to identify traffic diversion/staging and alternative routes. Emergency response times may increase during construction; however, with implementation of the TMP during construction, measures would provide priority for emergency vehicles during lane closures and traffic control. The TMP would include coordination with emergency service providers and include instructions for response and evacuation in the event of an emergency such as a wildfire The Project would not exacerbate wildfire risks or expose people or structures to significant risks. The Project would have a less than significant impact.

3.3.21 Mandatory Findings of Significance

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

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less Than Significant Impact

As determined in Section 3.3.4, the Project is not anticipated to have substantial adverse direct or indirect impacts to federally and state listed special-status species (listed animal species include CRLF and NSO), or to SSC species (WPT and bats). The Project is not anticipated to disrupt avian breeding or foraging behavior. Direct and indirect impacts to animal species would be avoided or minimized through the implementation of PFs and AMMs as summarized in Appendix B. The Project would not have a substantial adverse effect on riparian habitat, wetlands, or environmentally sensitive natural communities. No cultural resources or major periods of California history or prehistory are located within the Project footprints or Project area. Therefore, the impact would be less than significant.

b) No Impact

A review of projects in the vicinity of the Project determined that no past, present, or future projects would pose a cumulative effect together with implementation of the Project. For biological resources, no cumulative impacts are anticipated based on the implementation of the PFs and AMMs as summarized in Appendix B. With respect to population and housing, the Project would not be growth inducing. With respect to land use and planning, the Project is aligned with the goals of the Sonoma County

General Plan. With these considerations, the Project would not have cumulative impacts. Therefore, there would be no impact.

c) Less Than Significant Impact

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

Chapter 4 Community Outreach and Consultation and Coordination with Public Agencies

To date, public and agency coordination consists of the following.

4.1 Community Outreach

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

- Guerneville Regional Library
  14107 Armstrong Woods Rd.
  Guerneville, CA 95446

- Monte Rio Post Office
  21893 West St
  Villa Grande, CA 95486

The deadline for submission of comments on the IS/ND is January 27, 2023.

4.2 Consultation and Coordination with Public Agencies

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

Table 4-1. Consultation and Coordination with Public Agencies

Organization(s)	Date	Topic
USFWS	September 21, 2020	Via email, Daniel Palmer (Caltrans) contacted Caltrans USFWS Liaison John Cleckler and requested technical assistance. The request included a Project description, damage assessment form, and NSO maps depicting nearby detection and activity centers within approximately 2.4 miles of the proposed Project footprint.

Organization(s)	Date	Topic
USFWS	October 26, 2020	Via telephone, John Cleckler reported that technical assistance would be possible without a site visit
USFWS	June 24, 2022	Via telephone, John Cleckler confirmed a CRLF-specific habitat assessment and evaluation of noise impacts for NSO would be necessary to justify that the Project is unlikely to adversely affect these two species.

Chapter 5 List of Preparers and Reviewers

The primary people responsible for preparing and reviewing this IS/ND are summarized in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Maxwell Lammert	Office Chief (Acting), Office of Environmental Analysis
Caltrans	Arnica MacCarthy	Senior Environmental Planner, Office of Environmental Analysis
Caltrans	Christopher Pincetich	Branch Chief (Acting), Office of Biological Sciences and Permits
Caltrans	Robert Blizard	Branch Chief, Office of Biological Sciences and Permits
Caltrans	Jonathan Hogg	Environmental Scientist, Office of Biological Sciences and Permits
Caltrans	Helen Blackmore	Branch Chief, Office of Cultural Resource Studies
Caltrans	Alicia Sanhueza	Environmental Planner (Architectural History), Office of Cultural Resource Studies
Caltrans	Kathryn Rose	Senior Environmental Planner, Office of Cultural Resource Studies
Caltrans	Lindsay Busse	Associate Environmental Planner (Archaeology), Office of Cultural Resource Studies
Caltrans	Shilpa Mareddy	Branch Chief, Office of Environmental Engineering
Caltrans	Radhika Mothkuri	Transportation Engineer, Office of Environmental Engineering
Caltrans	Chris Wilson	District Branch Chief, Office of Environmental Engineering
Caltrans	Chris Risden	Branch Chief, Office of Geotechnical Design – West
Caltrans	Jim Allen	Engineering Geologist, Office of Geotechnical Design – West
Caltrans	Kathleen Reilly	District Branch Chief, Office of Hydraulic Engineering
Caltrans	Andy Do	Transportation Engineer, Office of Hydraulic Engineering
Caltrans	Joaquin Pedrin	Branch Chief, Office of Landscape Architecture
Caltrans	Wesley Bexton	Landscape Associate, Office of Landscape Architecture
Caltrans	Mojgan Osooli	Branch Chief, Office of Water Quality
Caltrans	Tayebeh Chimeh	Water Quality Engineer, Office of Water Quality
Caltrans	Mostafa Mo Faghihi	Water Quality Engineer, Office of Water Quality
Caltrans	Samira Norouzpour	Project Manager, Project Management North
Caltrans	Atif Abrar	Senior Transportation Engineer, Office of Design South, Special Projects
Caltrans	Zahra Sarwary	Project Engineer, Office of Design South, Special Projects
Caltrans	Joy Cheung	Construction Manager, Office of North Bay Construction
Caltrans	Tiffany Li	Transportation Engineer, Office of North Bay Construction-San Rafael
Jacobs	Stephanie Owens	Biologist

Organization	Name	Role
Jacobs	Rachel Cotroneo	Biologist
Jacobs	Clarice Ericsson	Publications Technician
Jacobs	Bryan Bell	Senior Technical Editor

Chapter 6 Circulation List

The IS/ND will be circulated by December 29, 2022, to the agencies and elected officials listed in the following sections.

6.1 Agencies

Federal Agencies

U.S. Fish and Wildlife Service
2800 Cottage Way W-2605
Sacramento, CA 95825

U.S. Army Corps of Engineers
Sacramento District
ATTN: Regulatory Branch
1325 J Street, Room 1480
Sacramento, CA 95825

National Marine Fisheries Services
777 Sonoma Avenue Room 325
Santa Rosa, CA 95404

State Agencies

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard
Santa Rosa, CA 95403

Bay Area Air Quality Management District
375 Beale Street, Suite 660
San Francisco, CA 94105

California Department of Parks and Recreation, Sonoma-Mendocino Coast District
P.O. Box 123
Duncan Mills, CA 95430-0123

California Highway Patrol
53 San Clemente Drive
Corte Madera, CA 94925

Regional and Local Agencies

Association of Bay Area Governments
101 Eighth Street, P.O. Box 2050
Oakland, CA 94604-2050

Sonoma County Permit, Resource Management Department, Planning Division
2550 Ventura Avenue
Santa Rosa, CA 95403

Sonoma County Sheriff's Office
2796 Ventura Avenue
Santa Rosa, CA 95403

Sonoma County Transportation Authority
411 King Street
Santa Rosa, CA 95404

6.2 Elected Officials

Federal Officials

UNITED STATES SENATE

The Honorable Dianne Feinstein
United States Senate
One Post Street, Suite 2450
San Francisco, CA 94104

The Honorable Alex Padilla
United States Senate
333 Bush Street, Suite 3225
San Francisco, CA 94101

UNITED STATES HOUSE OF REPRESENTATIVES

The Honorable Jared Huffman
United States House of Representatives, CA-2
999 Fifth Avenue, Suite 290
San Rafael, CA 94901

State Officials

CALIFORNIA STATE SENATE

The Honorable Mike McGuire
California State Senate (District 2)
50 "D" Street, Suite 450
Santa Rosa, CA 95404

CALIFORNIA STATE ASSEMBLY

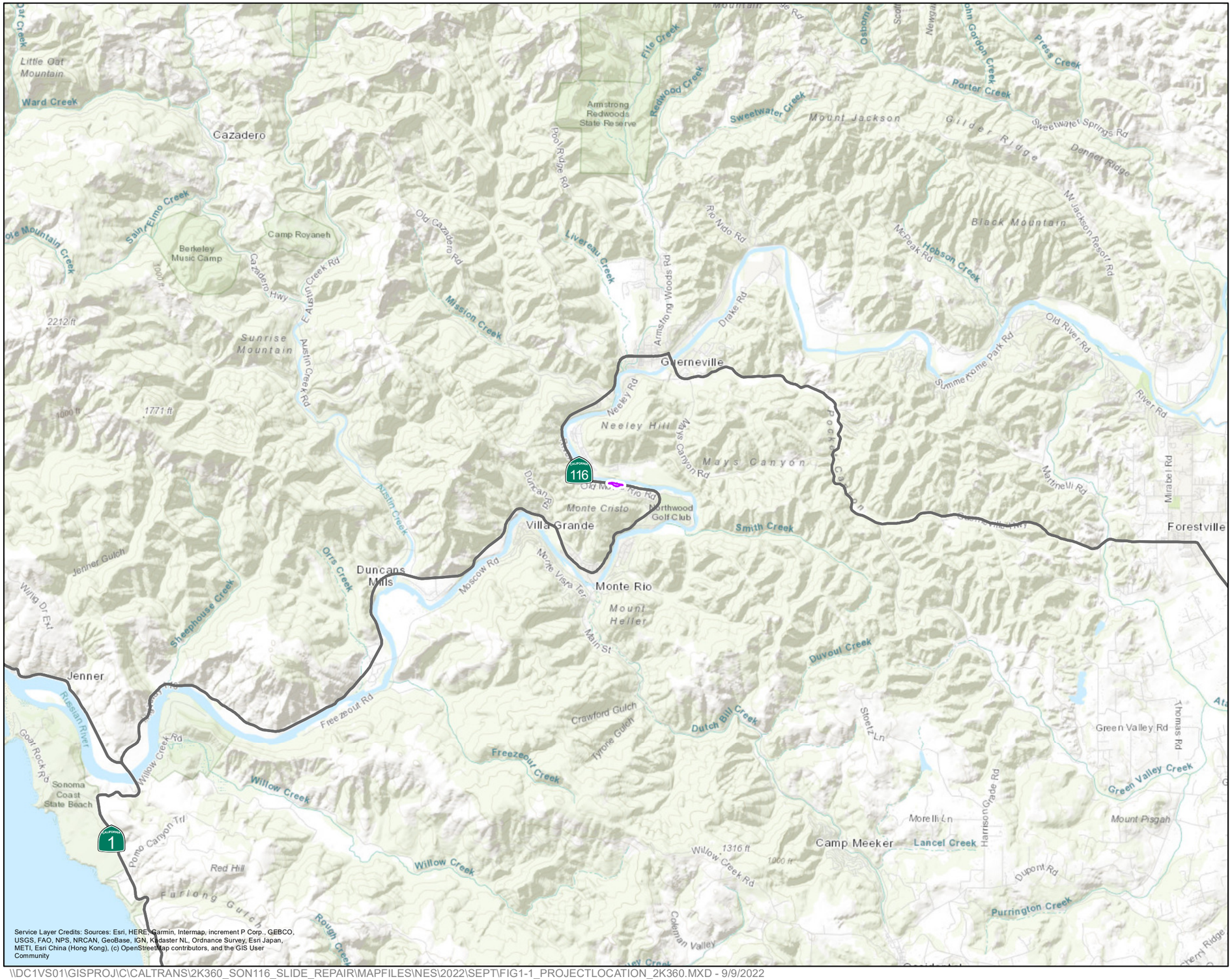
The Honorable Jim Wood
California State Assembly (District 2)
50 "D" Street, Suite 450
Santa Rosa, CA 95404

County Officials

COUNTY BOARD OF SUPERVISORS

The Honorable Lynda Hopkins (District 5)
Board of Supervisors
575 Administration Drive
Room 100 A
Santa Rosa, CA 95403

Appendix A Figures



Legend

Project Footprint (1.65 acres)

N

0 1 2

Miles

Caltrans

Figure 1-1
Project Location
Son-116 Storm Damage Project
EA 04-2K360, SON-116-9.55
Sonoma County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2K360_SON116_SLIDE_REPAIR\MAPFILES\NES\2022\SEPT\FIG1-1_PROJECTLOCATION_2K360.MXD - 9/9/2022

Legend

- Post Miles
- Caltrans Right of Way
- Project Footprint (1.65 acres)
- Staging Area (0.11 acre)
- Temporary Construction Easement (0.07 acre)
- Retaining Wall
- Concrete Barrier
- Rock Slope Protection (RSP)
- Access Road
- G2 DI
- 18 inch Corrugated Steel Pipe (CSP)
- 24 inch Corrugated Steel Pipe (CSP)
- Midwest Guardrail System (MGS)
- Alternative Crash Cushion System

Imagery Source:
2021 Sonoma County
High Resolution Orthophotos

N

0 50 100
Feet

Caltrans

Figure 1-2
Project Footprint and Design Elements
Son-116 Storm Damage Project
EA 04-2K360, SON-116-9.55
Sonoma County, California

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Appendix B Summary of Project Features and Avoidance and Minimziation Measures

Project Features

- PF-AES-1, Temporary Fencing: Use temporary exclusion fencing to protect the roots and canopies of nearby trees from construction-related activities.
- PF-AES-2, Construction Equipment and Materials Storage: Construction equipment and materials should be stored in screened staging areas beyond the direct view of the traveling public and residential properties to the extent feasible.
- PF-AES-3, Nightwork: For nightwork, limit construction lighting to the Project footprints for construction-related activities, and use directional lighting, shielding, and other measures as needed to minimize light trespass to adjacent residences and to the traveling public.
- PF-AES-4, Vegetation Impacts and Protection: Reduce impacts to vegetation to the greatest extent possible while allowing the Project to be implemented. Vegetation to remain should be protected from construction activities by temporary fencing when vegetation is close to construction-related activities.
- PF-AES-5 Revegetate Disturbed Areas: Revegetate disturbed areas with regionally appropriate native seed mix.
- PF-AQ-1, Dust Control Measures: Implement dust control measures to minimize airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 116 affected by construction traffic, and covering soils or materials or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.
- PF-AQ-2, Construction Vehicles and Equipment: Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.
- PF-AQ-3, Limit Idling: Limit idling times either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes.

- PF-BIO-1, A Permit Compliance Binder would be maintained at the construction site at all times and presented to resource agency (e.g., USACE, National Marine Fisheries Service (NMFS), USFWS, RWQCB, State Lands Commission, and/or CDFW) personnel upon request. The Permit Compliance Binder would include a copy of all original permits and agreements and any extensions and amendments to the permits and agreements.

- PF-BIO-2, Except as they are contradicted by measures within the permits and agreements, all work would be conducted in conformance with the project description in the permits and agreements and the AMMs provided in the permits and agreements.

- PF-BIO-3, Work in the bed, bank, or channel of aquatic resources, and in any associated riparian habitat, would only be conducted during periods of dry weather. Forecasted precipitation would be monitored. When 0.25 inch or more of precipitation is forecasted to occur, work would stop before precipitation commences. No Project activities would be started if their associated erosion control measures cannot be completed prior to the onset of precipitation. After any storm event, all sites currently under construction and all sites scheduled to begin construction within the next 72 hours would be inspected for erosion and sediment problems, and corrective action would be taken as needed; 72-hour weather forecasts from the National Weather Service would be consulted, and work would not start back up until runoff ceases, and there is less than a 50 percent forecast for precipitation for the following 24-hour period.

- PF-BIO-4, Prior to the start of construction, a biologist would provide a training session for all work personnel to identify any sensitive species that may be in the area, their basic habits, how they may be encountered in their work area, and procedures to follow when they are encountered. Any personnel joining the work crew later would receive the same training before beginning work. Upon completion of the education program, employees would sign a form stating they attended the program and understand all protection measures. A pamphlet that contains images of sensitive species that may occur within the Project area, ESAs within the Project area, key avoidance measures, and employee guidance would be given to each person who completes the training program. These forms would be made available to the resource agencies upon request.

- PF-BIO-5, Before construction begins, ESAs would be clearly delineated using high-visibility orange fencing, flagging, or similar marking to delineate sensitive habitats, including rare plants. The ESA marking would remain in place throughout construction. It may be removed during the wet season (and subsequently reinstalled) if needed to prevent materials from being washed away. The final Project plans would depict all locations where ESA markings would be installed and the manner of installation. The bid solicitation package special provisions would clearly describe acceptable marking material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. ESA markings would be maintained in good condition throughout the Project as needed.

- PF-BIO-6, If Project activities occur between February 1 and September 30, then a pre-construction survey would be conducted for nesting birds no more than 3 days before construction. If active nests are found, then an appropriate buffer would be established, and the nest would be monitored for compliance with the Migratory Bird Treaty Act and California Fish Game Code Section 3503.

- PF-BIO-7, If an active bird nest is found during construction activities, then the following ESA buffers would be established: If an active raptor nest is observed, a 300-foot ESA buffer would be implemented to avoid affecting the young until they have fledged; if an active nest of migratory bird other than a raptor is observed, a suitable ESA buffer would be determined by a qualified biologist and implemented to protect the young until they have fledged, or as otherwise determined by consultation with USFWS and CDFW regarding appropriate action to comply with the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.

- PF-BIO-8, Water pollution control and erosion control BMPs would be developed and implemented to minimize wind- or water-related erosion. They would follow the requirements of the RWQCB and standards outlined in Construction Site Best Management Practices Manual (Caltrans 2017). At a minimum, protective measures would include the following:

    1. Prohibiting discharge of pollutants from vehicle and equipment cleaning into storm drains or watercourses.

    2. Maintaining equipment to prevent the leakage of vehicle fluids, such as gasoline, oils, or solvents. Hazardous materials such as fuels, oils,

solvents, etc. would be stored in sealable containers in a designated location that is at least 50 feet from aquatic habitats.

3. Servicing vehicles and construction equipment, including fueling, cleaning, and maintenance, at least 50 feet from aquatic habitat unless separated by a topographic or engineered drainage barrier.

4. Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts, located at least 50 feet from watercourses.

5. Maintaining spill containment kits onsite at all times during construction operations, staging, and fueling of equipment.

6. Using water trucks and dust palliatives to control dust in unvegetated areas and covering of temporary stockpiles when weather conditions require.

7. Protecting graded areas from erosion using a combination of silt fences, fiber rolls, or straw wattles along toes of slopes or along edges of designated staging areas; erosion control netting (jute or coir); hydraulic mulch; temporary cover; drainage inlet protection; or other appropriate sediment control methods. To prevent wildlife from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material would not be used. Acceptable substitutes include coconut coir matting or tackifying hydroseeding compounds.

- PF-BIO-9, The following site restrictions would be implemented to avoid or minimize potential impacts on sensitive biological resources:

    1. Enforcing a speed limit of 15 miles per hour for Project vehicles in unpaved portions of the site to reduce dust and excessive soil disturbance.

    2. Locating construction access, staging, storage, and parking areas within the Caltrans ROW and outside of any designated ESA to the extent practicable. Access routes, staging and storage areas, and contractor parking would be limited to the minimum necessary to construct the proposed Project. Routes and boundaries of roadwork would be clearly marked before initiating construction.

3. Certifying that borrow material is nontoxic and weed free.

4. Enclosing food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.

5. Prohibiting pets from entering the Project area during construction.

6. Prohibiting firearms within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

- PF-BIO-10, To reduce the spread of invasive, non-native plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. If noxious weeds are disturbed or removed during construction-related activities, the contractor would be required to contain the noxious weed plant material and dispose of it in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would be replanted with fast growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project area would be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

  If work occurs in sensitive habitat, vehicles and equipment would be thoroughly cleaned before arriving on the site to prevent the spread of noxious weeds from other locations.

- PF-BIO-11, Vegetation would be cleared only where necessary and would be cut above soil level, except in areas that would be permanently affected or excavated. This would allow plants that reproduce vegetatively to resprout after construction.

- PF-BIO-12, Temporarily disturbed areas would be restored. Exposed slopes and bare ground would be reseeded with native grasses to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species would be replanted, based on the local species composition.

- PF-BIO-13, A habitat assessment would be conducted for potentially suitable bat roosting habitat prior to construction activities. If the habitat assessment reveals that any structures are suitable roosting habitat for bats, then the appropriate exclusionary measures would be implemented prior to construction during the period from March 1 to April 15 or August 31 to October 15. Potential avoidance may include exclusionary blocking or filling potential cavities with foam, visual monitoring, and/or staging Project work to avoid bats. If bats are known to use the structures, then exclusion netting would not be used.

  If the habitat assessment reveals suitable bat habitat in trees, and tree removal is scheduled from April 16 through August 30 and/or October 16 through February 28, then presence/absence surveys would be conducted 2 to 3 days prior to any tree removal or trimming. If presence/absence surveys are negative, then tree removal would proceed following a two-phase tree removal system. If presence/absence surveys indicate bat occupancy, then the occupied trees would only be removed from March 1 through April 15 and/or August 31 through October 15 by following the two-phase tree removal system. The two-phase system would be conducted over 2 consecutive days. On the first day (in the afternoon), limbs and branches are removed by a tree cutter using chainsaws or other hand tools. Limbs with cavities, crevices, or deep bark fissures are avoided and only branches or limbs without those features are removed. On the second day, the entire tree would be removed.

  Bats would not be disturbed without specific notice to, and consultation with, CDFW.

- PF-BIO-14, To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 1 foot deep would be covered at the close of each workday by plywood or similar materials or provided with one or more escape ramps constructed of earthen fill or wooden planks at an angle no greater than 30 degrees. Before such holes or trenches are filled, they would be thoroughly inspected for trapped animals. Pipes, culverts, or similar structures stored in the Project area overnight would be inspected before they are subsequently moved, capped, or buried.

- PF-BIO-15, For unavoidable nighttime work, all lighting would be shielded and directed downward toward the active construction area to avoid exposing nocturnal wildlife to excessive glare.

- PF-CULT-1, If previously unidentified cultural materials are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the find.

- PF-ENERGY-1, Recycle Waste and Materials: Recycle nonhazardous waste and excess materials offsite to reduce disposal, if feasible.

- PF-ENERGY-2, Solar Energy: Use solar energy as the energy source for construction equipment, such as, but not limited to, signal boards, if feasible.

- PF-ENERGY-3, Use regular vehicle and equipment maintenance.

- PF-HYD-1, Water Quality Best Management Practices. This Project would require a SWPPP, which would provide guidance on erosion control BMPs to be implemented to minimize wind- or water-related erosion. These BMPs would also be implemented via language in the *Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017), which provides guidance for including provisions in all construction contracts to protect sensitive areas and prevent and minimize stormwater and non-stormwater discharges. BMPs would include wind erosion controls (such as temporary covers, hydraulic mulch, hydroseeding and wood mulching), and drainage inlet protection. This may include:

    - Soil Stabilization: Scheduling, Preservation of Existing Vegetation, Slope Protection, Slope Interrupter Devices, and Channelized Flow;

    - Sediment Control: Temporary Fiber Rolls, Temporary Silt Fence and Storm Drain Inlet Protection;

    - Tracking Controls: Stabilized Construction Entrance/Exit, and Street Sweeping;

    - Wind Erosion Controls; Hydraulic Mulch and Temporary Covers;

    - Non-storm Water Management: Water Conservation Practices, Dewatering Operations, Paving and Grinding Operations, Potable Water/Irrigation, Vehicle and Equipment Operations (Fueling, Cleaning and Maintenance), Concrete Waste Management, and Material & Equipment Use;

    - Waste Management and Materials Pollution Control: Material Delivery and Storage, Material Use, Stockpile Management, Spill Prevention and Control,

Solid & Concrete Waste Management, Hazardous Waste & Contaminated Soil Management, and Sanitary/Septic & Liquid Waste Management.

- PF-HYD-2, Water Pollution Control Program: A WPCP would be prepared by the contractor and approved by Caltrans, pursuant to the 2018 Caltrans Standard Specifications Section 13, Water Pollution Control, and the Caltrans WPCP Preparation Manual, and implemented prior to the beginning of construction.

Avoidance and Minimization Measures

- AMM-AES-1, Aesthetically treat the wall and coping to simulate natural rock slopes, such as those that occur within the Sonoma SR 116 corridor between PM 4.4 and PM 10.7, in order to reduce visual contrast and produce a more varied surface texture and color that is compatible with the surrounding environment.

- AMM-AES-2, Color treat barriers dark brown to reduce visual contrast with the surrounding environment.

- AMM-AES-3, Color galvanized steel guardrails and other metal safety systems such as alternative end treatments and crash cushions (if practicable), a dark brown color to reduce visual contrast with the surrounding environment.

- AMM-AES-4, Route drain pipes to avoid damage to, or removal of, scenic resource trees (coast redwoods) on the river side of the highway.

- AMM-AES-5, Recess down-drain into the wall plane to avoid distracting shadowing and the appearance of engineered features strapped to the surface of the aesthetically treated wall.

- AMM-AES-6, Stockpile and re-use native topsoil to the extent practicable, to assist in revegetation success and re-establish native plants present in the native soil.

- AMM-AES-7, Soil fill and vegetate RSP to the extent practicable.

- AMM-AES-8 Prune trees under the supervision of a certified arborist to accommodate construction access to the maximum extent practicable, prior to considering tree removal.

- AMM-AES-9, Prune trees under the supervision of a certified arborist to accommodate construction access to the maximum extent practicable, prior to considering tree removal.

- AMM-AES-10, If construction work results in the unavoidable removal of existing trees of diameter breast height (caliper size) 4 inches or greater, replant trees within the Project limits with native and climatically appropriate species to the extent practicable; provide a minimum of three years of planting establishment for replacement trees.

- AMM-AES-11, Remove prior landslide debris and round grades at the berm adjacent to the river side of the highway, and revegetate this soil, to appear more natural.

- AMM-AES-12, Minimize appearance of construction equipment and staging areas. Screen the staging area from views from the river, to the extent practicable.

- AMM-BIO-1, During the spring season prior to construction, Caltrans would conduct focused pre-construction surveys for the rare plants identified as having potential to occur in the Project area. The extent and abundance of the rare plants would be mapped and flagged in the field for future relocation, salvage, and transplantation. These surveys would be conducted during the season that the rare plants are detectable and in the correct phenological stage of development for correct identification (typically late spring).

  If a rare plant is identified within the Project area during the pre-construction survey, a rare plant transplantation plan would be prepared. The transplantation plan would be submitted to the regulatory agencies for approval prior to the beginning of construction. The rare plant salvage and transplantation plan would include salvage and replanting methods, success criteria, the establishment of photo points, and monitoring methods. The rare plant salvage and transplantation plan would be prepared and approved by the regulatory agencies prior to the beginning of construction.

- AMM-BIO-2, Preconstruction surveys for CRLF would be conducted by the USFWS-approved biologist(s) no more than 24 hours prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) beyond the existing pavement. These efforts would consist of walking surveys of the Project footprint focusing on the mesic areas at the

existing culvert intake and outfall and, if possible, on accessible adjacent areas of upland habitat within at least 50 feet of the Project footprint. The biologist(s) would investigate potential cover sites when it is feasible and safe to do so. This includes a thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the Project footprint would be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the biologist(s) would investigate areas of disturbed soil for signs of frogs within 30 minutes following initial disturbance of the given area.

- AMM-BIO-3, Prior to the start of construction, wildlife exclusion fencing (WEF) would be installed along the Project footprint in areas where CRLF could enter the Project site. The WEF location would be surveyed and included on the Project plans. The final Project plans would show where and how the WEF would be installed. The special provisions in the bid solicitation package would clearly describe acceptable fencing material and proper WEF installation and maintenance. The WEF would remain in place throughout the duration of the Project and would be regularly inspected and maintained.

- AMM-BIO-4, The USFWS-approved biologist would appoint a biological monitor (e.g., the crew foreman) who would be responsible for ensuring that all crew members comply with permit guidelines. Environmental training would be conducted for new personnel before they can participate in construction activities. The approved biologist would notify the Resident Engineer who would address any work stoppage, and the Service would be contacted if a CRLF is encountered during Project activities.

- AMM-BIO-5, If a CRLF is encountered in the immediate work area, the following procedures would be followed:

    1. If a CRLF is discovered during surveys or proposed work activities, the resident engineer and USFWS-approved biologist(s) would be immediately informed. If a CRLF gains access to a construction zone, work would be halted immediately within 50 feet until the animal leaves the construction zone.

    2. The USFWS-approved biologist(s) would have the authority to halt work through coordination with the resident engineer if a CRLF is discovered within the Project footprint. The resident engineer would ensure construction

activities remain suspended in any construction area where the qualified biologist(s) has determined that a potential take of the CRLF could occur. Work would resume once the animal leaves the site voluntarily, or it is determined that the CRLF is not being harassed by construction activities.

3. Caltrans would submit post-construction compliance reports prepared by the biologist to the USFWS within 60 calendar days following completion of Project activities or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report would detail (1) dates that relevant Project activities occurred; (2) pertinent information concerning the success of the Project in implementing avoidance and minimization measures for listed species; (3) an explanation of failure to meet such measures, if any; (4) known Project effects on the CRLF, if any; (5) documentation of employee environmental education; and (6) other pertinent information.

- AMM-BIO-6, An approved biologist would conduct pre-construction surveys for western pond turtle as needed. A visual encounter survey would be conducted immediately before ground-disturbing activities. Suitable habitat within the Project footprint would be visually inspected. If western pond turtle (WPT) is found within the Project footprint and at risk of harm, then it would be relocated outside of the Project footprint by the approved biologist.

- AMM-BIO-7, To ensure that potential adverse noise or visual impact effects on NSO are avoided and/or minimized, a preconstruction survey would be conducted during the NSO breeding season in areas of potential NSO habitat within the 330-foot visual line of disturbance contour (which includes the 295-foot, 82 dBA noise tolerance threshold) of the Project site. The focus of the survey should be on the detection of the species and potential active nest sites that could be affected by the proposed Project.

  If an active nest is found within the 330-foot contour visual line of disturbance, the start of construction would be delayed until the young have fledged. NSO young generally leave the nest (that is, fledge) in late May or June. If an active nest is found within the 330-foot visual line of disturbance contour it would be monitored by a USFWS-approved biologist to document when the young have left the nest and construction can start.

- AMM-BIO-8, To minimize noise generated from the proposed Project to the degree possible, all construction equipment, fixed or mobile, would be fitted with properly operating and maintained mufflers consistent with manufacturers' standards.

- AMM-BIO-9, If clearing and grubbing occurs between May 1 and September 1, an agency-approved bat biologist would conduct visual and acoustic bat surveys for roosting, or evidence of roosting. The bat biologist would visually inspect tree foliage, bark, and cavities, and any other structures that could provide roosting habitat for bats. If a maternity colony is discovered, construction activity, including tree removal and vegetation trimming, would cease within 100 feet of the colony, and Caltrans would coordinate with CDFW for technical assistance.

- AMM-BIO-10, Trees would be removed using a two-step process to avoid take of bats and minimize potential disturbance to roosting habitat. If observed during pre-construction surveys, ESA fencing would be installed to protect the roosting trees before construction begins, and the Project biologist would coordinate with USFWS and/or CDFW for technical assistance.

- AMM-NOISE-1, If feasible schedule construction activities during the day, 6:00 a.m. to 9:00 p.m.

- AMM-NOISE-2, Careful planning of tasks such that equipment producing the highest noise levels are operated between 6:00 a.m. to 9:00 p.m.

- AMM-NOISE-3, Locate staging and storage areas away from residential areas.

- AMM-NOISE-4, Use quieter alternative methods of equipment.

- AMM-NOISE-5, Prevent idling of equipment near sensitive receptors.

- AMM-NOISE-6, Equip all internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the Project site without the appropriate muffler.

- AMM-NOISE-7, If feasible, use solar or electricity as power source instead of diesel generators.

- AMM-TRANS-1, Transportation Management Plan: A TMP would be prepared prior to the beginning of construction to aid in coordinating and providing further

safety measures for those accessing the Project corridor during construction. The TMP would identify traffic delays and alternative routes for emergency and medical vehicles associated with essential services, and would minimize impacts to service ratios, response times, and other performance objectives for public services. The TMP would provide priority to emergency vehicles during traffic control, as well as include instructions for response or evacuation in the event of an emergency.

Appendix C List of Technical Studies and References

Association of Bay Area Governments and Metropolitan Transportation Commission (ABAG and MTC). 2021. *Plan Bay Area 2050*. October. https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf. Accessed May 16, 2022.

Bryant, W.A., and M. Lundberg, compilers. 2002. "Fault number 1b, San Andreas fault zone, North Coast section." in *Quaternary fault and fold database of the United States: U.S. Geological Survey*. https://earthquake.usgs.gov/cfusion/qfault/show_report_AB_archive.cfm?fault_id=1&section_id=b. Accessed May 16, 2022.

California Air Resources Board (CARB). 2019. *Summaries of Historical Area Designations for State Standards*. https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/state-area-designations/summary-tables. Accessed May 16, 2022.

California Department of Conservation. 2016. *California Important Farmland Finder*. https://maps.conservation.ca.gov/dlrp/ciff/. Accessed May 16, 2022.

California Department of Conservation. 2019. *Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency*. https://www.conservation.ca.gov/dlrp/fmmp/Pages/Sonoma.aspx. Accessed May 16, 2022.

California Department of Conservation. 2020. *California Tsunami Maps and Data*. https://www.conservation.ca.gov/cgs/tsunami/maps. Accessed May 16, 2022.

California Department of Fish and Wildlife (CDFW). 2022a. California Natural Diversity Database (CNDDB). Biogeographic Data Branch, Sacramento, California. https://wildlife.ca.gov/Data/CNDDB. Data downloaded October 2022.

California Department of Forestry and Fire Protection (CAL FIRE). 2008. *Fire Hazard Severity Zone Viewer*. https://egis.fire.ca.gov/FHSZ/. Accessed May 16, 2022.

California Department of Forestry and Fire Protection (CAL FIRE). 2022a. *Fire Hazard Severity Zone Maps*. https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/. Accessed May 16, 2022.

California Department of Forestry and Fire Protection (CAL FIRE). 2022b. *Fire Hazard Severity Zones in SRA*. https://osfm.fire.ca.gov/media/6822/fhszs_map49.pdf. Accessed May 16, 2022.

California Department of Transportation (Caltrans). 2017. Construction Site Best Management Practices (BMP) Manual. http://website.dot.ca.gov/hq/construc/stormwater/documents/CSBMP-May-2017-Final.pdf.

California Department of Transportation (Caltrans). 2018. Caltrans District 4 Bike Plan for the San Francisco Bay Area. https://dot.ca.gov/-/media/dot-media/district-4/documents/d4-bike-plan/caltransd4bikeplan_report_lowres-r6.pdf

California Department of Transportation (Caltrans). 2021 a. *Director's Policy DP-37, Complete Streets*. https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/dp-37-complete-streets-a11y.pdf. Accessed May 31, 2022.

California Department of Transportation (Caltrans). 2022a. *EA 2K360 SR 116 Slide Repair Project. Visual Impact Assessment and Scenic Resource Evaluation*. Memorandum. Office of Landscape Architecture.

California Department of Transportation (Caltrans). 2022b. *EA 2K360 SR 116 Slide Repair Project. Natural Environmental Study* Office of Biological Sciences and Permits.

California Department of Transportation (Caltrans). 2022c. *EA 2K360 SR 116 Slide Repair Project.* Memorandum. Office of Cultural Resource Studies.

California Department of Transportation (Caltrans). 2022d. *EA 2K360 SR 116 Slide Repair Project. Energy Analysis Report.* Memorandum. Office of Environmental Engineering.

California Department of Transportation (Caltrans). 2022e. *EA 2K360 SR 116 Slide Repair Project*. *Construction Greenhouse Gas Emissions Analysis*. Memorandum. Office of Environmental Engineering.

California Department of Transportation (Caltrans). 2022f. *EA 2K360 SR 116 Slide Repair Project. Geologic and Palaeontologic Analysis for Replacing Bridge Railings*. Memorandum. Office of Geotechnical Design – West.

California Department of Transportation (Caltrans). 2022g. *EA 2K360 SR 116 Slide Repair Project. Hydraulics* Memorandum. Office of Hydraulic Engineering.

California Department of Transportation (Caltrans). 2022h. *EA 2K360 SR 116 Slide Repair Project. Water Quality Study*. Office of Water Quality.

California Department of Transportation (Caltrans). 2022i. *Draft Community Impact Assessment for the SR 116 Slide Repair Project*.

California Native Plant Society (CNPS). 2022. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website: http://www.rareplants.cnps.org. Accessed October 2022.

California State Water Resources Control Board (SWRCB). 2017. *Final California 2014 and 2016 Integrated Report (303(d) List/305(b) Report) Supporting Information.* https://www.waterboards.ca.gov/water_issues/programs/tmdl/2014_16state_ir_reports/table_of_contents.shtml. Accessed May 16, 2022.

Federal Highway Administration. 2014. *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and 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.* https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/106pa-14-a11y.pdf. Accessed May 16, 2022.

Forsman, E. D., E. C. Meslow, and H. M. Wight. 1984. Distribution and biology of the spotted owl in Oregon. Wildlife Monographs 87:1–64.

LaHaye, W.S. 1988. Nest site selection and nesting habitat of the Northern Spotted Owl (*Strix occidentalis caurina*) in northwest California. Master's Thesis, Humboldt State University, Arcata, CA.

LaHaye, W. S., and R. J. Gutierrez. 1999. Nest sites and nesting habitat of the northern spotted owl in northwestern California. Condor 101:324-330.

Miller, R.V., S.L. Kohler, L.L. Busch, D.L. Dupras, and J.P. Clinkenbeard. 2005. *Mineral Land Classification of Aggregate Materials in Sonoma County, California*. California Geological Survey (formerly Division of Mines and Geology) Special Report 175.

Natural Resources Conservation Service (NRCS). 2022. *Web Soil Survey Map and Resource Report for Caltrans 2Q440, California*. United States Department of Agriculture. http://websoilsurvey.nrcs.usda.gov/. Accessed May 16, 2022.

National Marine Fisheries Service (NMFS). 2022. California Species List Tools. National Oceanic Atmospheric Administration. Washington, DC. Website: https://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html. Accessed 5 October 2022.

Sonoma County. 2006. *Sonoma County General Plan 2020, Public Safety Element*. Amended September 9, 2014. https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Long%20Range%20Plans/General-Plan-Public-Safety-Element.pdf. Accessed May 16, 2022.

Sonoma County. 2020a. *Sonoma County General Plan. Land Use Element*. https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Pre-2022/Department%20Information/Cannabis%20Program/_Documents/General-Plan-Land-Use-Element.pdf. Accessed May 16, 2022.

Sonoma County. 2020b. *Sonoma County General Plan. Circulation and Transit Element*. https://permitsonoma.org/Microsites/Permit%20Sonoma/Documents/Archive/_Documents/General-Plan-Circulation-and-Transit.pdf. Accessed May 16, 2022.

Sonoma County. 2022a. *Sonoma County Emergency Operations Plan*. https://sonomacounty.ca.gov/administrative-support-and-fiscal-services/emergency-management/plans. Accessed May 16, 2022.

Sonoma County Transportation Authority (SCTA). 2014. SCTA Countywide Bicycle and Pedestrian Master Plan. https://scta.ca.gov/wp-content/uploads/2016/07/BikePedPlanUpdate2014_final.pdf. Accessed June 17, 2022.

State Water Resources Control Board (SWRCB). 2017. 2014-16 California Clean Water Act Section 303(d) List. https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed 2022.

State Water Resources Control Board (SWRCB). 2022. GeoTracker. https://geotracker.waterboards.ca.gov/profile_report?global_id=T0609758212. Accessed May 16, 2022.

U.S. Environmental Protection Agency (EPA). 2022. *Non-attainment Areas for Criteria Pollutants* (Green Book). https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed May 16, 2022.

U.S. Fish and Wildlife Service (USFWS). 2020. Estimating the effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California. October 1.

U.S. Fish and Wildlife Service (USFWS). 2022a. Information for Planning and Consultation. U.S. Department of the Interior, USFWS, Washington, D.C. Website: https://ecos.fws.gov/ipac/ Accessed 5 October 2022.