Soldier Pile Wall Project

SONOMA COUNTY, CALIFORNIA
CALTRANS DISTRICT 4
State Route 1, POST MILE 26.67-27.09
EA#: 04-0J300
EFIS#: 0413000433

Initial Study with Proposed Mitigated Negative Declaration

Prepared by Caltrans

April 2020

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with a Mitigated Negative Declaration (ISMND) to examine the potential environmental impacts of constructing a soldier pile retaining wall along State Route 1 in Sonoma County, California (Project). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the Project is being proposed, how the existing environment could be affected by the Project, the potential impacts of each proposed activity, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- This document can also be accessed at the Caltrans District 4 Environmental Documents By County Website
- We would like to hear what you think. Send comments, including requests that Caltrans holds a public meeting to:

  Arnica MacCarthy, Environmental Branch Chief
  Caltrans, District 4
  Office of Environmental Analysis
  111 Grand Avenue MS-8B
  Oakland, CA 94612
  Or Maxwell.Lammert@dot.ca.gov
- Be sure to send comments by the deadline: May 30, 2020.

What happens next:

Per CEQA Section 15073, Caltrans will circulate the Initial Study with Proposed Mitigated Negative Declaration for review for 30 days. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and will respond to the comments after the 30-day public review period. After comments are received from the public and reviewing agencies, Caltrans may (1) grant

environmental approval to the proposed Project, (2) conduct additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative Formats:

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

An ADA-compliant electronic copy of this document is available to download at: the Caltrans environmental document website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Initial Study with Proposed Mitigated Negative Declaration

04-SON-1	26.67-27.09	04-0J300
Dist. – Co. – Rte.	PM	E.A.

Project title:	Soldier Pile Wall Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Arnica MacCarthy, Senior Environmental Planner (510) 286-7195
Project location:	Sonoma County, California
General plan description:	Highway
Zoning:	Highway, Public Facilities
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements)	• California Transportation Commission • United States Fish and Wildlife Service Biological Opinion • Consistency Determination from California Department of Fish and Wildlife • 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife • 404 Standard Individual Permit from the U.S. Army Corp of Engineers • Clean Water Act 401 Water Quality Certification from the North Coast Regional Water Quality Control Board • Coastal Development Permit from Sonoma County • Section 4(f) Concurrence from the California Parks and Recreation

The document, maps, project information, and supporting technical studies are available for review weekdays from 8:00 am to 5:00 pm at the Caltrans District 4 Office, 111 Grand Avenue, Oakland, CA 94612. The document is also available to download at the Caltrans environmental document website (https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs).

Christopher Caputo
Caltrans District 4, Acting Office Chief
Office of Environmental Analysis

April 22, 2020
Date

Proposed Mitigated Negative Declaration
Pursuant to Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes a major storm damage restoration project on State Route (SR) 1, 0.5 mile north of Meyers Grade Road, north of the Town of Jenner, in Sonoma County, California.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an MND for this Project. This does not mean that Caltrans' decision regarding the Project is final. This MND is subject to change based on comments received by interested agencies and the public.

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

The Project would have no effect on agriculture and forestry, air quality, cultural resources, mineral resources, noise, population and housing, public services, tribal cultural resources, and utilities and service systems.

The Project would have a less than significant impact to aesthetics, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, recreation, transportation, and wildfire.

With Mitigation Measures: develop a mitigation strategy for California red-legged frog (CRLF) (BIO-1), develop a mitigation strategy for environmentally sensitive habitat areas (ESHAs)(BIO-2), and develop a mitigation strategy for aquatic resources (BIO-3) the Project would have less than significant impacts on biological resources.

_____ _____

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

Date

Table of Contents

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the California Environmental Quality Act (CEQA) lead agency and sponsor for the proposed Soldier Pile Wall Project (Project) and has prepared this Initial Study with Proposed Mitigated Negative Declaration.

The Project is located on State Route (SR 1), from 0.5 mile north of Meyers Grade Road to 0.9 mile north of Meyers Grade Road, north of the Town of Jenner, in Sonoma County, California (see Figure 1, Project Location).

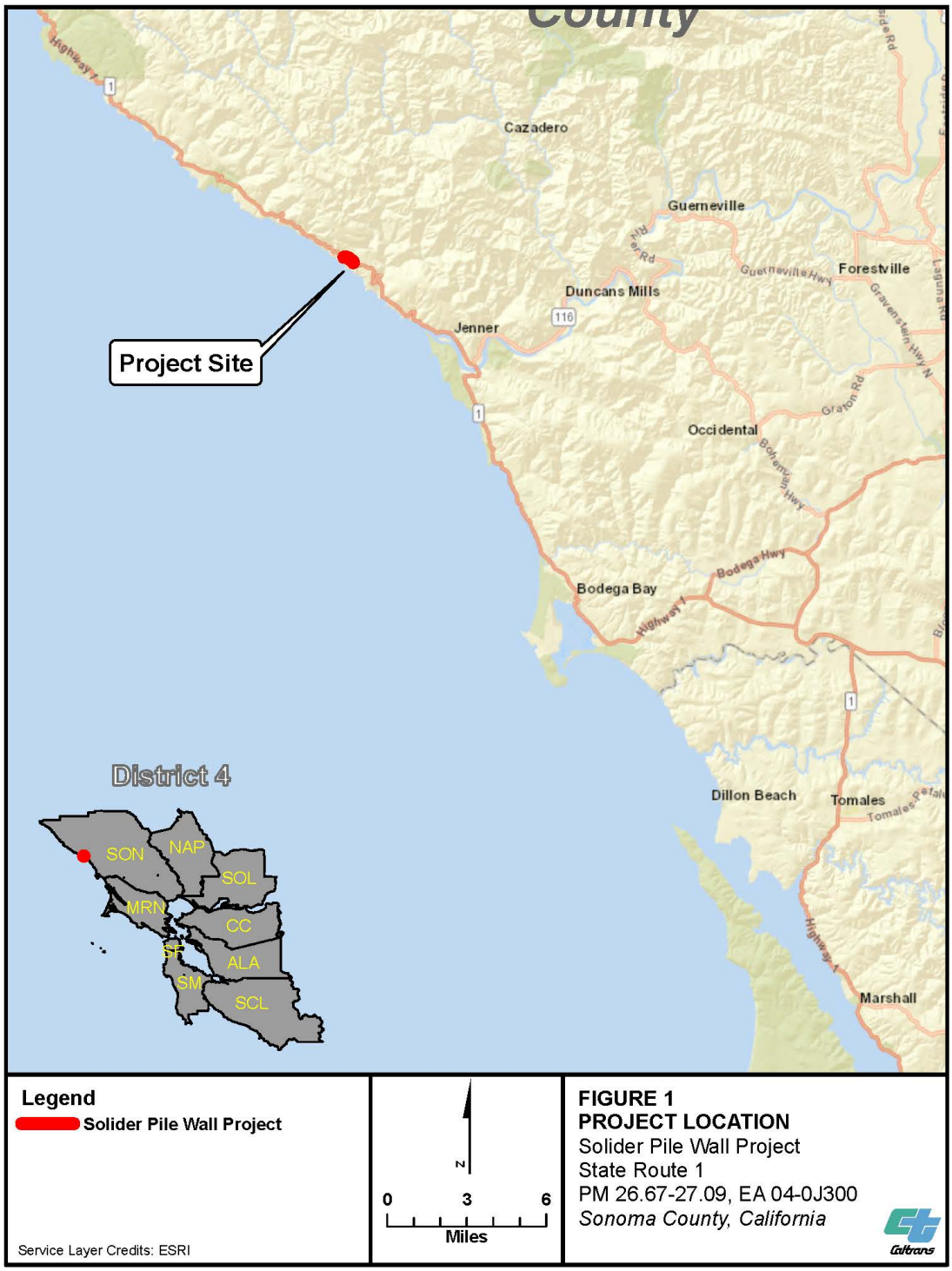
This Project is funded by the State Highway Operation and Protection Program, under 201.131 "Major Damage Permanent Restoration" and is included in the 2016 funding cycle.

1.2 Purpose and Need

The purpose of the Project is to restore the structural integrity of SR 1, prevent additional damage, and protect SR 1 from future structural damage caused by natural disasters.

The Project is needed because SR 1 between postmile (PM) 26.72 and 26.79 has several discontinuous longitudinal cracks in the middle of the southbound lane. The highway pavement has settled between one and six inches, creating uneven pavement and undulated areas. In addition, the embankment has settled about three inches along the southbound shoulder next to the existing guardrails. Between PM 26.86 and 26.91 there is a 95-foot-long slide along the southbound shoulder. The entire highway in both directions has dropped approximately four inches. If not addressed, further erosion would affect the structural integrity of the highway and ultimately the safety of the travelling public.

Figure 1-1 Project Location



Chapter 2 Project Description

2.1 Highway Damage

Highway damage occurs in two distinct locations within the Project limits: between PM 26.72 and 26.78 and between PM 26.86 and 26.91.

Between PM 26.72 and 26.78, there are several discontinuous longitudinal cracks in the middle of the southbound lane for a total length of approximately 307 feet. Some of the two- to three-inch-wide cracks extend along the centerline and encroach into the northbound lane. The highway pavement has settled unevenly, dropping between one and six inches, creating uneven pavement and areas of undulation. In addition, the southbound shoulder has settled about three inches adjacent to the existing metal beam guard rail (MBGR).

Between PM 26.86 and 26.91 there is an active landslide that has caused the entire highway in both directions to settle four inches. The length of the slide is about 95 feet along the southbound shoulder and its head scarp is located five feet above the east side of the highway. Caltrans Maintenance personnel have placed asphalt patches over this area to resolve the settling every winter.

2.2 Introduction

In Sonoma County, SR 1 is generally a two-lane rural conventional highway that provides the only link to several small coastal communities. Within the Project limits, SR 1 is a two-lane undivided highway that runs north/south, with eleven-foot-wide lanes and shoulders vary from zero to four-feet.

The Project limits are part of a larger landslide area, colloquially known as “Slidesville”, located between PM 26.0 and 28.5. The area is an extensive landslide complex in Franciscan mélange (a geologic term for rocks commonly found throughout the California Coast Ranges) with multiple slide planes. Studies to address the larger landslide mass were initiated in the early 1990s. Several exploratory borings and slope inclinometers were installed to monitor and better understand the landslides in these areas. Some of the localized slip-outs were repaired under several previous Caltrans projects, however the most successful long-term treatments have been at locations where soldier pile walls have been constructed.

There are two alternatives that Caltrans has explored for this Project, the build alternative (or Project), which would include the construction of the soldier pile wall, and the no build alternative, which would make no improvements to the damaged highway. The no build alternative would not meet the purpose and need of this Project and would leave the segment of highway vulnerable to continued erosion and future slides.

2.3 Build Alternative – Proposed Project

This alternative proposes to construct a tieback soldier pile retaining wall from PM 26.67 to PM 27.09 which would correct the two distinct locations of damage mentioned in Section 2.1. The wall would be constructed approximately eight feet to the west of the southbound lane and would consist of one row of tiebacks using structural fill behind the retaining wall to repair the highway slip outs. The maximum height of the retaining wall's laggings would be approximately twenty-five feet.

The Project would bury the face of the retaining wall to the extent feasible using an ECS, described in section 2.3.2 (Embankment Confinement System and Build Scenarios) below. Lane widths are currently eleven feet wide and would remain unchanged. A four-foot wide shoulder would be constructed along both directions consistent with the *Sonoma State Route 1 Repair Guidelines* (Guidelines; Caltrans 2019c). Drainage inlets and culverts within the Project limits would be replaced and their outlet locations changed to accommodate the soldier pile wall, and additions to the drainage system would be required.

The footprint of this alternative can be viewed in Figure 2.2 at the end of this chapter.

2.3.1 Soldier Pile Tieback Retaining Wall

The proposed soldier pile tieback retaining wall would be approximately 2,217 feet long. A typical cross-section of a tieback soldier pile wall is shown at the end of this chapter in Figure 2-1. The retaining wall's foundation would be made of sixty-foot-long, steel, soldier piles placed into vertically drilled holes in the soil west of the southbound lane. The face of the retaining wall would be between fifteen and twenty-five feet tall (prior to burying the wall with ECS). Horizontal timber lagging (large wooden planks designed for use in a wall structure) would be placed perpendicular to the vertical piles and fastened to the piles. Tiebacks, which are anchor rods inserted into the retaining wall at a downward angle through the backfill material and material under the southbound lane, will secure the failure plane of the landslide. Tiebacks would be attached to a concrete waler on the face of the timber lagging and are

designed to laterally anchor the retaining wall into the backfill material under SR 1 and the structurally sound geological material east of the highway. Once the retaining wall is constructed, it would be buried fully or partially with an ECS as described in the following section.

2.3.2 Embankment Confinement System and Build Scenarios

An ECS, essentially a large wire basket containing soil covering lightweight fill, would be constructed in front of and against the new retaining wall, burying it and obscuring the retaining wall to the maximum extent feasible from the view of highway users and any other potential viewers. The ultimate placement of the ECS will be constrained by the limited availability of Caltrans right of way in some areas within the Project limits and a maximum slope of 60 degrees (0.6:1) for the ECS. These limitations combine to mean that small portions of the retaining wall may remain unburied. Any unburied portions of the wall would be painted "leather brown" to blend the retaining wall into the view shed. This document evaluates two different build scenarios as a result of the ECS's limitations, a totally buried wall and a mostly buried wall where the ECS remains within the existing Caltrans right of way.

The two possible build scenarios would have different impacts to several environmental factors. Chapter 3 (CEQA Evaluation) evaluates the impacts of both potential build scenarios. The two build scenarios would have different impacts to the following environmental factors: Aesthetics, Biological Resources, Land Use and Planning, and Recreation.

The ECS would be covered with a mix of native soil and amendments blended to foster the growth of local native plants. The ECS and related areas of disturbed soil would be seeded using hydroseeding equipment, with seeding applied to the entirety of the face of the ECS. The seeds would be collected from within the Project limits or from the regional vicinity, meaning the plants would be locally native and of the same genetic stock as the surrounding vegetation.

Roadside runoff water would drain behind the basket of the ECS, and since roots would fill much of the interior of the ECS, it would hold the soil in place and prevent erosion. Within one growing season the locally native seed mix would begin to obscure the ECS, and within approximately three years, the newly constructed slope is expected to blend with the natural surroundings. A period of erosion control maintenance and weed control would follow construction, helping ensure that the locally native plants are successfully established.

2.3.3 Drainage System

Within the limits of the proposed tieback soldier pile wall, there are a total of eight existing cross-road culverts that vary in size from eighteen inches to thirty-six inches in diameter. These culverts would be replaced with new culverts, maintaining to the extent possible the existing outlet points. Along the northbound lane, a side gutter or a drainage ditch would be constructed, and along the southbound lane, an asphalt dike would be necessary to prevent roadside runoff from flowing over the retaining wall.

In locations with existing drainage systems, new drainage inlets (DI's) would be installed to facilitate the additional surface runoff from the increased impervious surface area. To facilitate the additional surface runoff, the new culverts may be wider in diameter than existing culverts. The design for the culverts would be finalized during the next phase of the project. Replaced culverts would be attached to the new DI's and then would drain into new drainage pipes that would channel the storm water through a designed opening in the retaining wall and ECS. Most drainage locations currently have an existing rock slope protection (RSP) pad that is designed to dissipate the water, protecting the downslope area from erosion. The existing RSP pads would be maintained as much as possible but, due to the footprint of the ECS, may need to be moved westward.

RSP consists of a layer of rocks used to stabilize slopes and prevent erosion. To install RSP, loose rock and sediment would be removed, and the slope graded to a depth of relatively stable sediment. Fabric or gravel is then placed over the sediment and covered with rocks. For this Project, soil-filled RSP would be used such that a blend of local soil and fine compost is placed in rock voids and as a topsoil cover that is seeded with locally native species. Rock used in RSP would be selected to blend with the native rock and soil.

2.3.4 Metal Beam Guardrail

Within the Project limits, there is existing metal beam guardrail (MBGR). The existing MBGR would be upgraded to Midwest guardrail system (MGS) which is the standard guardrail system currently used by Caltrans. The Project would also add an additional 330 feet of new MGS near the northern limits of the Project, where traffic incident statistics have determined a need for more guardrail. Consistent with the Guidelines (Caltrans 2019c), posts for the MGS would be wood, white barrier markers on top of the MGS would be used in lieu of delineators, gravel would be used for weed control under the MGS, a matte treatment would be applied to reduce glare, and the height of the MGS would be approximately 31 inches above the

ground. Installing the MGS would involve soil auguring for the new wooden posts to a depth of 3 feet below existing ground surface.

2.4 Right of Way Requirements

To construct the retaining wall, Caltrans would need to acquire right of way from the California Department of Parks and Recreation (State Parks), Sonoma Coast State Park (Sonoma Coast SP). The centerline of the roadway and the existing Caltrans right of way are not parallel in the Project area and widening the highway to accommodate the four-foot shoulders would extend the edge of travelled way outside of Caltrans right of way.

To construct the build scenario with a completely buried wall face, permanent right of way acquisitions or easements would be required from Sonoma Coast SP to build the ECS and maintain it in perpetuity. Approximately 0.17 acre of right of way would be required from Sonoma Coast SP to fully bury the retaining wall with an ECS.

A partially buried retaining wall, with the ECS limited to the areas of existing Caltrans right of way, would require the permanent acquisition or easement of approximately 0.04 acre of land from Sonoma Coast SP due to the nature of the existing Caltrans right of way mentioned above.

2.5 Construction Methodology, Schedule, and Equipment

2.5.1 Methodology

The scope for the proposed work includes construction, staging, and storage of equipment and materials. Closure of the southbound lane of traffic would be necessary during construction to allow room for staging areas and equipment and material storage areas. One-way traffic control would be used to divert traffic to the northbound lane. Flaggers or temporary traffic signals would be used to stop traffic at either end of the construction area, and portable K-rail (concrete barriers commonly used to separate construction from the travelling public) would be used to separate the lane open to traffic from construction activities. Figure 2-1 at the end of this chapter shows how the eleven-foot temporary lane would be maintained.

The following describes a typical construction scenario for a retaining wall project of this type. The actual construction process may vary at the discretion of the contractor awarded the Project.

After the establishment of one-way traffic control, the next order of construction would be the clearing and grubbing of vegetation within the work area. The Project does not propose the removal of any trees, but all plants and small shrubs within the Project's construction footprint would be removed with a front loader to begin construction of the retaining wall.

Once traffic control is established and the vegetation is cleared and grubbed, the retaining wall would be constructed. The construction of the proposed retaining wall would begin with using a drill rig to drill vertical holes for the steel soldier piles. Then the soldier piles would be inserted by a crane into the drilled holes to a depth of 60 feet. Then horizontal timber lagging would need to be set, which would require an earthen construction bench approximately twenty feet wide west from the proposed retaining wall's base throughout the proposed length of the wall. The construction bench would excavate the face of the wall, which would be between 15-25 feet high before being buried by ECS. Excavated material would be stockpiled on site to be used as native soil for the ECS. The earthen bench would serve as an access road for the safe movement of construction materials, personnel, and equipment. To create the construction bench, front loaders and dump trucks would remove earthen material to create a mostly flat area. The soil in this area would be compacted to create a stable surface. Horizontal timber lagging would be attached perpendicularly to the vertical piles using a crane and hand-tools. Once the wall face is constructed, backfill material would be placed between the wall face and the southbound edge of pavement. Front loaders and dump trucks would be used to place and compact the structure backfill.

After backfill material is placed, tiebacks would be drilled to secure the failure plane of the landslides. The anchors would be drilled through designed holes in the lagging at a downward angle through the backfill material to secure the failure plane. The depth of the anchors would be determined during the next phase of the project when more geotechnical data is available and further structures design is completed. Concrete walers would be cast onto the lagging to complete the wall.

When the retaining wall structure is completed, the face of the retaining wall and the approximately twenty-foot-wide construction bench would be buried to the maximum extent feasible with an ECS. The ECS and related areas of disturbed soil would be seeded using hydroseeding equipment, with seeding applied to the entirety of the face of the ECS.

Pavement and drainage work may be done simultaneously as some of the previously described work at the discretion of the contractor. The new pavement would be placed on top of the backfill material in layers, a granular subbase would be first, followed by a layer of compacted aggregate fill, with hot-mix asphalt applied as the top layer. Highway striping would be placed to delineate the two eleven-foot lanes and two four-foot shoulders. New drainage inlets and pipes would be installed in areas of new pavement before the new pavement is placed. After the new pavement surface is placed, one-way traffic may be shifted from the northbound lane to the southbound lane to complete drainage work. Drainage work would involve cutting through and removing the pavement and fill over existing culverts, removing the existing culverts, placing the replacement culverts, and placing fill over the new culverts. Any additional drainage inlets needed near the northbound edge of pavement would be placed at this time. Finally, the highway would be repaved as needed, and striping would be placed.

2.5.2 Schedule

Construction is expected to take a total of twenty-four months, or two years-worth of construction seasons to complete. The Project would need approximately 200 working days and is anticipated to take place between January 2023 and January 2025. Construction restrictions such as limiting construction activities to only occur during daylight hours and work within drainages to be restricted to the dry season (June 15 to October 15) would be implemented. In addition, vegetation removal would be scheduled between October 1 to January 30 to avoid impacts to nesting birds during their nesting season, February 1 to September 30.

2.5.3 Equipment

Construction equipment would include, but not be limited to, drill rigs, concrete trucks, a crane, front loaders, dump trucks, water buffalos, excavators, pavers, paving equipment, portable message/arrow boards, cone trucks, rollers, and attenuation trucks.

Construction equipment and materials would be stored within the limits of the one-way traffic control within the Caltrans right of way. No temporary construction easements are anticipated.

2.6 Impacts to Vegetation

Within twenty-five and thirty-five feet of the existing southbound edge of pavement, the Project proposes the clearing and grubbing of vegetation to create a clear work

area. This would be necessary to construct the construction bench for the safe movement of equipment, materials, and personnel. There are no trees within the area that would be disturbed. Grasses and shrubs removed during construction would be replaced by reseeding the ECS after construction. Consistent with the Guidelines, replacement planting would include a five-year plant establishment period with erosion control maintenance and weed control. Impacts to vegetation are further discussed in Biological Resources.

2.7 Project Features

The proposed Project contains several standardized project components which are employed on most, if not all, of Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed Project. These components are referenced as Project Features in Chapter 3 as they pertain to different environmental resources, and are separated out from AMMs and Mitigation Measures, which directly relate to the impacts resulting from the proposed Project.

Table 2-1 lists the Project Features that would be implemented by Caltrans to reduce or avoid potential impacts to the human and natural environment.

Table 2-1 Project Feature Summary

Resource Area	Project Feature Reference	Project Feature
Air Quality	**Feature AQ-1**	**Control Measures for Construction Emissions of Fugitive Dust.** Dust control measures would be implemented to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of an organic tackifier to control dust emissions would be included in the construction contract. Watering guidelines would be established by the contractor and approved by the Caltrans resident engineer. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.
Air Quality	**Feature AQ-2**	**Air Pollution Control.** Caltrans Standard Specifications Section 14-9.02, Air Pollution Control, requires contractors to follow all air pollution control rules, regulations, ordinances, and statutes.

Resource Area	Project Feature Reference	Project Feature
Biological Resources	**Feature BIO-1**	**Worker Awareness Training:** The resident engineer would contact the agency approved biologist seven calendar days before the initial preconstruction meeting to request environmental training. All construction personnel would attend a mandatory environmental education program facilitated by an agency approved biologist before construction begins. Training sessions would be repeated for all new personnel before they are allowed access to the job site. All personnel would complete the training and sign a form stating that they completed the training and understand all applicable agency regulations and consequences of noncompliance. Training would be provided in foreign languages as needed. Caltrans would keep the forms on file and make them available to regulatory agencies on request. The training would include a minimum of: • A description of special-status species that could potentially occur on site. • A discussion of applicable agency regulations and consequences of noncompliance. • A review of the Project's conservation measures (Project Features and AMMs) and how impacts would be avoided by implementing the measures.
Biological Resources	**Feature BIO-2**	**Environmentally Sensitive Areas.** The contractor would be required to place temporary high visibility barrier fencing along the boundaries of environmentally sensitive areas (ESAs) to avoid impacts to sensitive habitat, plants, and animals. ESAs would be defined with high visibility fencing, lathing stakes and tape, or pin flags as appropriate. The materials used to identify the locations would be removed at the end of construction. ESAs would be delineated on construction plans.
Biological Resources	**Feature BIO-3**	**Bird Protection Measures.** To avoid take of migratory birds during the bird nesting season (February 1 to September 30): To the extent practicable, vegetation removal would only occur between October 1 and January 31. Vegetation trimming, or removal would not occur outside of the Project footprint. Agency approved biologists would conduct preconstruction nesting bird surveys no more than three days prior to construction. If an active nest is discovered, the biologists would establish an appropriate exclusion buffer around the nest. The area within the buffer would be avoided until the young are no longer dependent on the adults or the nest is no longer active. If a nesting special-status bird species is discovered, an agency approved biologist would notify the USFWS and/or CDFW for further guidance. Partially constructed and inactive nests would be removed to prevent occupation.

Resource Area	Project Feature Reference	Project Feature
Biological Resources	**Feature BIO-4**	**Revegetation and Weed Control.** To comply with Executive Order 13112: The contractor would minimize the spread of invasive and nonnative plant species. If noxious weeds are disturbed or removed during construction-related activities, the contractor would contain the noxious weeds and associated plant material and dispose of them in a manner that would not promote 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, disturbed areas within the Footprint would be covered with heavy black plastic solarization material until the end of the Project.
Biological Resources	**Feature BIO-5**	**Speed Limit.** Vehicles would not exceed 15 miles per hour in the Project footprint to reduce dust and excessive soil disturbance.
Biological Resources	**Feature BIO-6**	**Trash Control.** Food and food related trash items would be secured in sealed trash containers and removed from the site at the end of each day.
Biological Resources	**Feature BIO-7**	**Pets.** Pets would be prohibited from entering the BSA.
Biological Resources	**Feature BIO-8**	**Firearms.** Firearms would be prohibited within the BSA except for those carried by authorized security personnel or local, state, or federal law enforcement.
Cultural Resources	**Feature CULT -1**	**Stop Work Upon Discovery of Cultural Materials.** If cultural materials are discovered during construction, all earth-moving activity within a sixty-foot radius would be halted until a Caltrans Professionally Qualified Staff (PQS) can assess the nature and significance of the find.
Cultural Resources	**Feature CULT-2**	**Additional Actions if Cultural Materials Contain Human Remains.** If Caltrans PQS determines that cultural materials contain human remains, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. Caltrans' OCRS would contact the Sonoma County Coroner. Pursuant to PRC Section 5097.98, if the remains are thought by the coroner to be Native American, the coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent. The Caltrans OCRS would work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
Greenhouse Gas Emissions	**Feature GHG-1**	**Emissions Reduction.** Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, require contractors to comply with all laws applicable to the Project and to certify they are aware of and would comply with all ARB emission reduction regulations.

Resource Area	Project Feature Reference	Project Feature
Hydrology and Water Quality	**Feature WQ-1**	Water Quality BMPs: The Project would be compliant with the Construction General Permit issued by the State Water Resources Control Board and with the Provisions of the Caltrans Statewide National Pollution Discharge Elimination System permit. The contractor would be required to prepare and submit a Construction Site Dewatering and Diversion Plan and Stormwater Pollution Prevention Plan for approval. The contractor would adhere to the instructions, protocols, and specifications, outlined in the most current Caltrans Construction Site Best Management Practices Manual and Caltrans Standard Specifications. At a minimum, protective measures would include the following: • Disallowing discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses • Storing or servicing vehicles and construction equipment including fueling, cleaning and maintenance at least 50 feet from aquatic habitat unless separated by a topographic or drainage barrier. • Maintaining equipment to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents and developing a Spill Response Plan. 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. • Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts located at least 50 feet from watercourses. • Using water trucks and dust palliatives to control dust and covering temporary stockpiles. • Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment. • Protecting graded areas from erosion using a combination of silt fences, fiber rolls, and erosion control netting (jute or coir) as appropriate.
Hydrology and Water Quality	**Feature WQ-2**	**Place RSP Where Needed.** RSP dissipaters would be installed at the outlets of culvert replacements if necessary, will be determined during the Project design phase, will be limited to the greatest extent feasible and, will be hidden from view where possible consistent with the Guidelines.
Tribal Cultural Resources	**Feature TRIBE-1**	**Protect Discovered Tribal Cultural Resources with Temporary Fencing:** If any tribal cultural resources are found during construction, a Caltrans PQS archaeologist shall determine whether the resources can be avoided by the Project. If the resources can be avoided, the resources would be delineated on the ground with temporary fencing and avoided by construction. No construction-related activities or staging are permitted within these areas.

2.8 No Build Alternative

The no build alternative would not address the purpose and need of the Project. If no action was taken, continual erosion would affect the structural integrity of SR 1 and ultimately the safety of the travelling public.

2.9 Permits and Approvals Needed

Table 2-1: Permits and Approvals

Agency	Permit	Permit Status
U.S. Army Corps of Engineers	Section 404 Permit	Application submittal anticipated during next Project phase.
North Coast Regional Water Quality Control Board	Section 401 Water Quality Certification	Application submittal anticipated during next Project phase.
California Department of Fish and Wildlife	Section 1602 Lake and Streambed Alteration Agreement	Application submittal anticipated during next Project phase.
United Stated Department of Fish and Wildlife (USFWS)	Biological Opinion	Biological Opinion expected before the Final Environmental Document is completed.
Sonoma County	Local Coastal Development Permit	Application submittal anticipated during next Project phase.
California Department of Parks and Recreation	Section 4(f) Evaluation Concurrence	The Section 4(f) Evaluation is currently being prepared. Concurrence would be sought shortly after completion of the 4(f) Evaluation and before completion of the Final Environmental Document.

Figure 2-1 Typical Cross-section of a Tieback Soldier Pile Wall

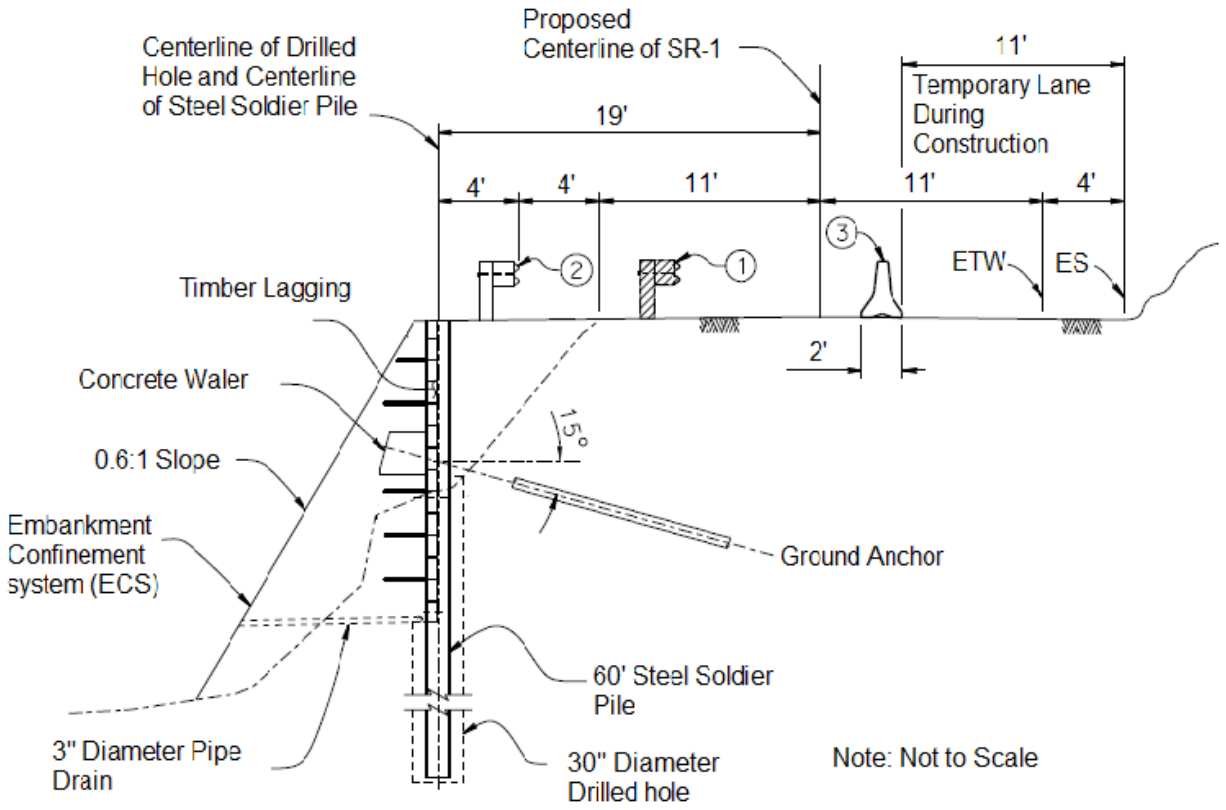
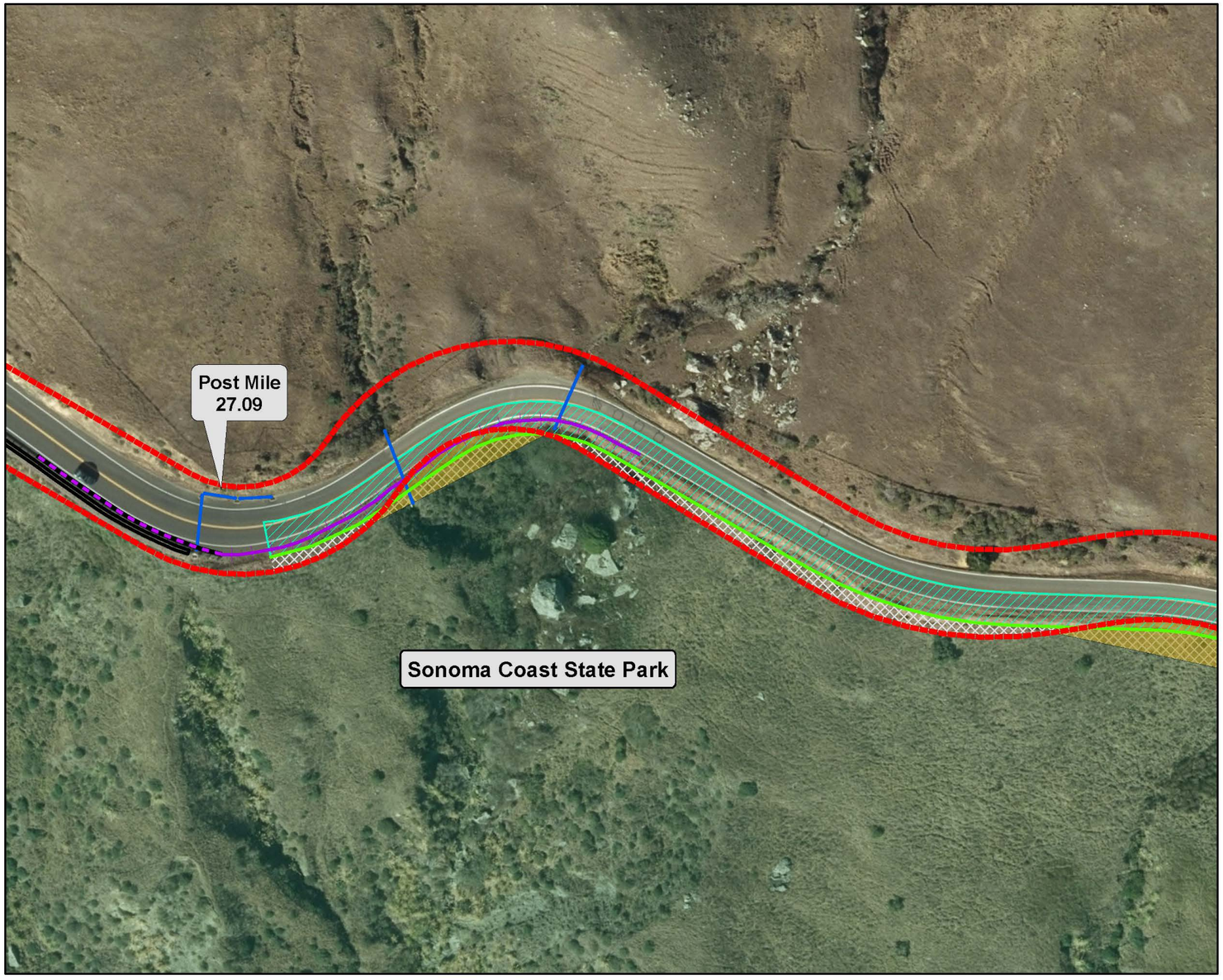


Figure 2-1 Typical Cross-section of a Tieback Soldier Pile Wall

Figure 2-2 Soldier Pile Wall Project Footprint



LEGEND

- Right of Way
- Proposed Wall
- Existing MBGR
- Proposed MGS, No Existing MBGR
- Existing Wall
- Existing Drainages to be Replaced
- Construction Staging and Storage Area
- Sonoma Coast State Park
- ROW Acquisition
- Final ECS

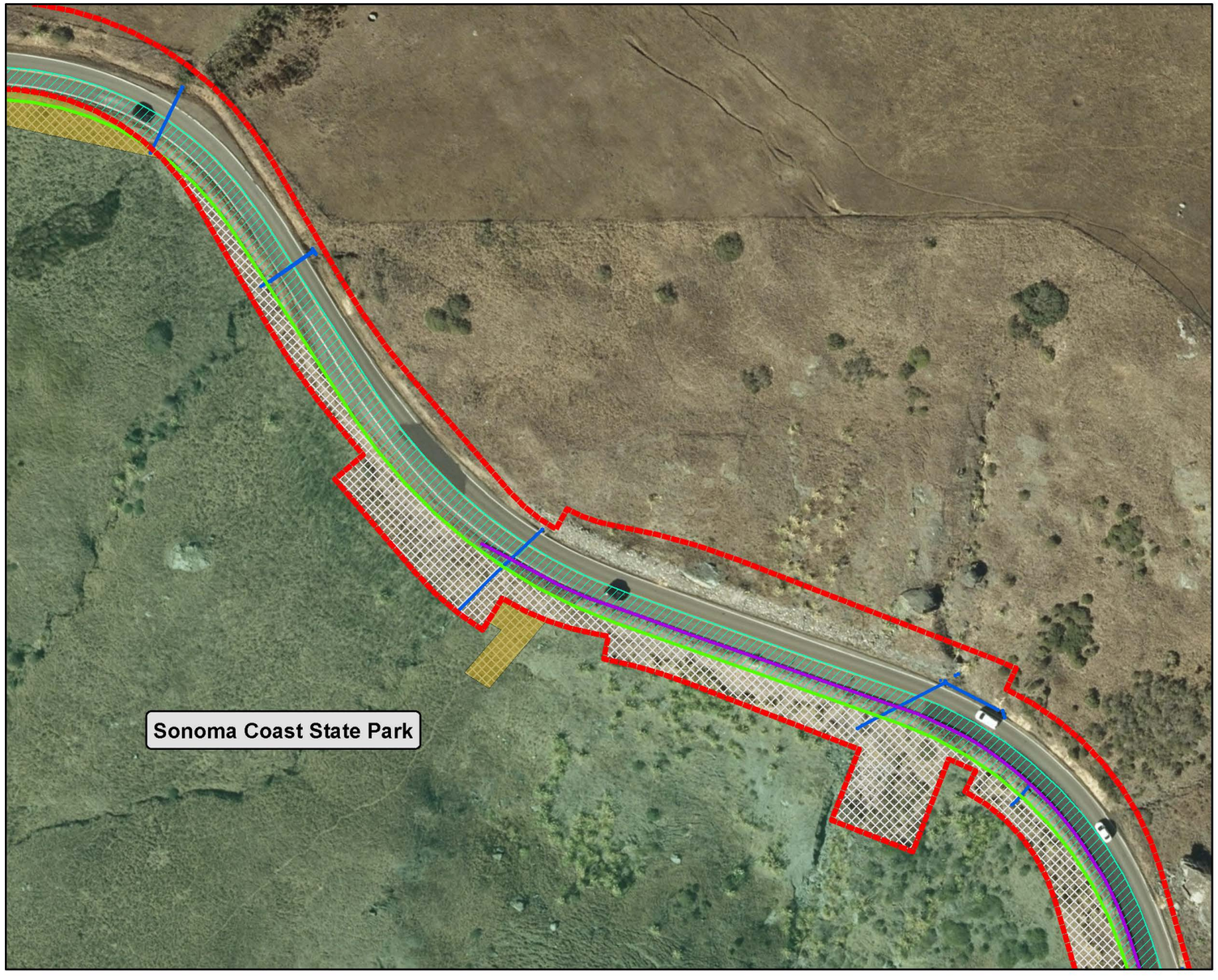
0 50 100
Feet

N

Imagery Source:
Sonoma County Spring 2018

Caltrans

Figure 1 of 3
Soldier Pile Wall Project Footprint
EA 04-0J300, SON-1 Post Mile 26.67-27.09
Sonoma County, California



LEGEND

- Right of Way
- Proposed Wall
- Existing MBGR to be Replaced by MGS
- Existing Drainages to be Replaced
- Sonoma Coast State Park
- ROW Acquisition
- Construction Staging and Storage Area
- Final ECS

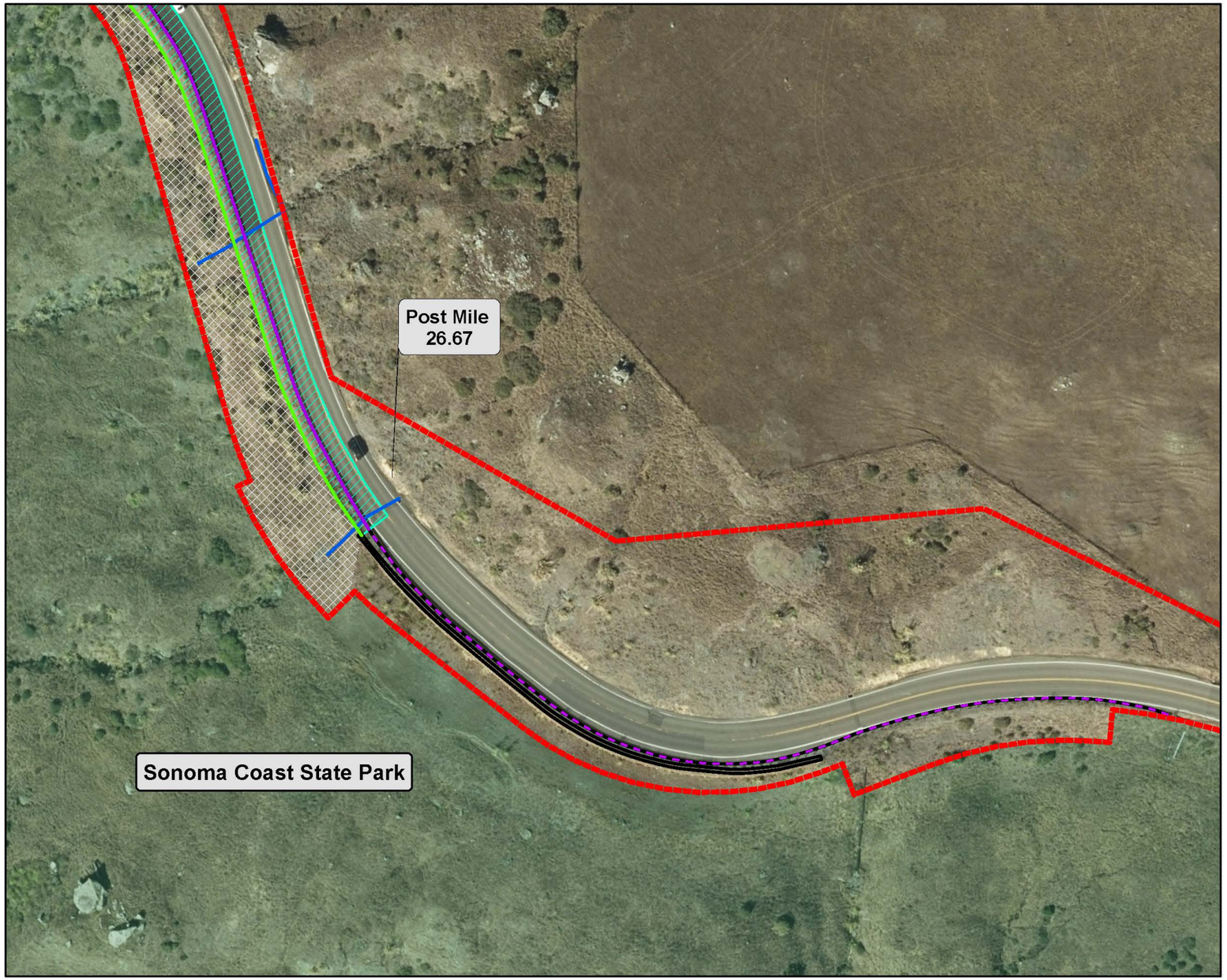
0 50 100
Feet

N

Imagery Source:
Sonoma County Spring 2018

Caltrans

Figure 2 of 3
Soldier Pile Wall Project Footprint
EA 04-0J300, SON-1 Post Mile 26.67-27.09
Sonoma County, California



LEGEND

- Right of Way
- Proposed Wall
- Existing_MBGR
- Existing MBGR to be Replaced by MGS
- Existing Wall
- Existing Drainages to be Replaced
- Construction Staging and Storage Area
- Sonoma Coast State Park
- ROW Acquisition
- Final ECS

0 50 100
Feet

N

Imagery Source:
Sonoma County Spring 2018

Caltrans

Figure 3 of 3
Soldier Pile Wall Project Footprint
EA 04-0J300, SON-1 Post Mile 26.67-27.09
Sonoma County, California

Chapter 3 CEQA Evaluation

This chapter evaluates potential environmental impacts of the proposed Project, as described in Chapter 2 as they relate to the CEQA checklist to comply with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091).

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project. Please see the full CEQA Environmental Checklist for additional information.

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

Determination

On the basis of this initial evaluation:

	I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required
Signature:	**Date:**
Printed Name: Christopher Caputo	

CEQA Environmental Checklist

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

Aesthetics

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

A Visual Impact Assessment (VIA) was completed by the Caltrans Office of Landscape Architecture in February 2020 (Caltrans 2020a). The findings of the VIA are analyzed as they apply to CEQA in this section.

The Project corridor is defined as the area of land that is visible from and adjacent to the highway and extends outside of Caltrans right of way. The Project corridor is determined by topography, vegetation, and viewing distance. Land use within the Project corridor is primarily parkland and grazing pasture, with widely scattered residential and farm buildings. Sonoma Coast State Park is adjacent to the project site on the downslope side of the highway, with parkland extending north and south of the project limits. The Project occurs along a scenic stretch of SR 1 that is listed as Eligible for Designation as a State Scenic Highway. The area throughout the Project corridor is of extremely high scenic quality, with no objectionable features near SR 1, and it includes highly scenic views of the Pacific Ocean, the coastline, and the surrounding hills.

As mentioned in Section 2.3.2 (Embankment Confinement System and Build Scenarios), the Project would have two build scenarios, the retaining wall face would either be fully buried by an ECS or mostly buried by an ECS. Starting on the next page, visual simulations from the VIA compare the current site conditions to a rendering of what the Project area would look like if the Project was constructed with either a fully or mostly buried retaining wall.

Figure 3-1 Facing Northbound – Existing Condition

Figure 3-2 Facing Northbound – Wall Mostly Buried

Figure 3-3 Facing Northbound – Wall Fully Buried

Figure 3-4 Facing Southbound – Existing Condition

Figure 3-5 Facing Southbound – Wall Mostly Buried

Figure 3-6 Facing Southbound – Wall Fully Buried

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

The permanent changes most likely to be noticed by the traveling public include: any portions of the retaining wall that cannot be buried and are therefore visible, which may occur at only two locations if at all; widened shoulders, especially on the southbound side; and the extended guardrail. In addition to the permanent changes, the traveling public would be exposed to temporary impacts due to construction activities, equipment storage, and one-way traffic control.

While permanent changes would be greater in the build scenario with a mostly buried wall (because there would be exposed portions of the timber lagging visible to the traveling public), in either build scenario, permanent and temporary visual impacts of the Project would be limited by the curvature of the highway and the steep topography of the Project corridor. The highway curvature limits the duration a permanent change would be visible to the traveling public as well as the distance the change would be visible from. The steep topography of the Project corridor similarly limits the views from the highway on the surrounding landscape as well as views of the highway from private and public properties upslope or downslope from the Project site. The retaining wall would be downslope of the highway, entirely or mostly buried, and revegetated; therefore, the retaining wall would, at most, visually intrude a very small degree.

Resources such as unique or outstanding trees, rock outcroppings, and historic buildings or other structures would not be adversely affected by the Project. Project elements that might otherwise be undesirable visual intrusions in this high-quality visual landscape would be made compatible with the Project corridor. This would be made possible through the modification of those elements based on adherence to the Guidelines (Caltrans 2019c; AMM AES-2). Compliance with the Guidelines would minimize impacts to the visual environment and would ensure that Project components would be appropriate for the Sonoma SR 1 corridor. The result would provide visual continuity of the corridor, including consistency with other slide repair projects in the area. The AMMs would minimize the degree of visual change within the Project area and maximize the extent to which the Project would blend with the surrounding natural landscape.

For both the fully buried wall or the partially buried wall, impacts to scenic vistas, scenic resources, and the visual character or scenic quality of the landscape in the Project corridor would be less than significant.

d) Less Than Significant Impact

The Project proposes to add length of MGS, which could potentially be a source of glare for the travelling public. However, the MGS proposed by the Project would have wooden posts, a matte treatment to reduce glare, and would be consistent with the design guidelines mentioned in AMM AES-3. Impacts from the MGS are minimized by AMM AES-3, and the impact from any glare would be less than significant.

Avoidance and Minimization Measures

The following elements of design and construction intended to minimize changes to the visual character of the area have been incorporated into the Project.

AMM AES-1 Buried Wall Face: The proposed retaining wall would be buried to the maximum extent practical, either entirely or in great majority. The resultant slope and all other disturbed areas will be revegetated with native seed.

AMM AES-2 Comply with the Guidelines: Changes to the highway geometric features such as curvature, lane width, and shoulder width will be minimized in accordance with the Guidelines when feasible.

AMM AES-3 MGS Considerations: MGS is proposed only where supported by highway conditions. Limiting the addition of MGS further minimizes view-cluttering components. MGS proposed shall be consistent with the Guidelines when feasible.

Agriculture and Forest Resources

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

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

Although the Project limits are in a rural setting in Sonoma County, there would not be any impacts to agricultural or forest resources. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the Project limits. The majority of the work for the Project would occur within Caltrans right of way on land that is used as a transportation facility. Temporary or permanent right of way acquisitions may be necessary to construct the Project and maintain the Project area in perpetuity. Acquisitions would only occur on the west side of SR 1. This land is currently part of Sonoma Coast State Park and is not used for agriculture production and is not forested or zoned for timber harvest.

The Project would not convert farmland to non-agricultural use. The Project footprint does not contain land under the Williamson Act or land zoned as forest land, timber

land, or timberland production. There would be no loss or conversion of forest land to non-forest land, or any other changes to the existing environment that would convert farmland to non-agricultural use or forest land to non-forest use. There would be no impact to agriculture and forest resources.

Air Quality

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

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

The Project is exempt from conformity determination per 40 CRF 93.126 – Other: Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes. The Project would not conflict with or obstruct implementation of the applicable air quality plan, result in a cumulatively considerable net increase in any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions that adversely affect a substantial number of people. Construction air pollutants are expected to be minimal to negligible. Potential impacts to air quality, including violation of air quality standards, criteria pollutants, exposure of sensitive receptors to pollutants and creation of odors, are not expected based on the scope of the Project. Project Features AQ-1 and AQ-2 would help ensure that there are no temporary impacts from fugitive dust.

Biological Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or NOAA Fisheries?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Caltrans has prepared a Natural Environmental Study (NES) for the Project (Caltrans 2020b). The following text summarizes and analyzes the information presented in the NES. The two build scenarios, a partially buried or fully buried wall, have different impacts and are both evaluated throughout this section.

The Biological Study Area (BSA) includes the areas surveyed to identify, evaluate, and quantify the natural resources potentially affected by the Project footprint. The Project footprint is defined as the entire area of direct impacts including areas that

could be potentially disturbed due to construction activities. The BSA includes a 100-foot buffer around the Project footprint of the fully buried wall scenario. The same BSA was also used to evaluate the partially buried wall since the footprint of the fully buried wall scenario encompasses the footprint of the partially buried wall scenario. The BSA is approximately 13.62 acres, and includes portions of the highway prism, developed bare ground, potential waters of the U.S. and State, coastal wetlands, Environmentally Sensitive Habitat Areas (ESHAs), special-status species habitat, and vegetated upland habitat. Areas outside the BSA but near the Project area were also assessed using literature, aerial images, satellite imagery and database searches to identify potential wildlife dispersal corridors.

A regional list of special-status wildlife and plant species was compiled by querying databases from the U.S Fish and Wildlife Service (USFWS; USFWS 2019a), California Native Plant Society (CNPS; CNPS 2020), California Natural Diversity Database (CNDDB; CDFW 2019), and National Wetlands Inventory (USFWS 2019b). Each special-status wildlife and plant species on these regional lists was evaluated to determine its potential to occur within the Project's BSAs. The NES summarizes the special-status plant and animal species with potential to occur within the BSAs and shows the CNDDB special-status plant and animal species occurrences within five miles of the BSA.

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

- Biological reconnaissance-level survey and habitat assessments
- Aquatic resources delineations
- Coordination with representatives from CDFW and USFWS

a) Less Than Significant Impact with Mitigation

SPECIAL STATUS PLANT SPECIES

No special-status plant species were detected during site visits which occurred between September and November 2019; however, these site visits were outside of blooming season for many species, and many species were not identifiable. The BSA includes suitable habitat for thirty-eight special-status plant species; therefore, there is potential for these species to occur on site. During the 2020 blooming period, protocol level plant surveys would be conducted for the thirty-eight special-status species in Table 5 in the NES.

Avoidance and Minimization Measures for Rare Plants

AMM BIO-1 Botanical Surveys: Botanical surveys would be conducted in accordance with CDFW protocols during the 2020 blooming season (February through November). Focused surveys would be conducted during the 2021 blooming season if needed. The NES would be updated with the results, and additional conservation measures would be included if necessary.

AMM BIO-2 Special-status Plant Avoidance: If found during surveys, ESA fencing would be identified on the Project plans, and installed to protect special-status plants before construction begins, and the agency approved biologist would coordinate with USFWS and/or CDFW for technical assistance.

SPECIAL STATUS WILDLIFE SPECIES

Habitat for the following species was observed in the BSA: California red-legged frog (CRLF; *Rana draytonii*), obscure bumblebee (*Bombus caliginosus*), burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*). There is potential for Myrtle's silverspot butterfly (MSB; *Speyeria zerene myrtleae*) to occur in the BSA if hookedspur violet (*Viola adunca*) is present. Three terrestrial special-status species were observed during site visits: northern harrier (*Circus hudsonius*), osprey (*Pandion haliaetus*), and peregrine falcon (*Falco peregrinus).* These eight species are discussed below.

California Red-legged Frog

The CRLF is federally listed as an endangered species under the Federal Endangered Species Act. All vegetation communities in the BSA could provide suitable upland and dispersal habitat, including dense vegetation, burrows, and crevices in RSP and existing ECS. Potentially suitable breeding habitat for CRLF was identified within the BSA in the form of a 2.5-foot-deep pool with substantial vegetation, however this breeding habitat is not within the Project footprint and is not anticipated to be impacted. Additionally, two potentially suitable breeding pools and several ephemeral streams located less than 2.0 miles from the BSA are identifiable on aerial maps. Thus, there is the potential for CRLF to breed or shelter in the BSA or disperse through the BSA.

In a fully buried wall scenario, approximately 1.5 acres of suitable upland habitat could be impacted during construction activities such as vehicle operation, foot traffic, vegetation clearing, ground disturbance, soldier pile installation, and the

removal and replacement of RSP. Approximately 1.39 acres of suitable upland habitat would be impacted by the partially buried wall scenario. Impacts would be considered permanent if the habitat is disturbed for more than one year from the start of construction or if habitat cannot be recovered on site.

The Project would have minimal permanent impacts and other short-term adverse impacts to CRLF habitat, and if CRLF are present during construction, the Project could result in the loss of individuals. The Project related construction activities could result in take as defined by the Federal Endangered Species Act. With Project Features, CRLF-specific AMMs, and Mitigation Measure BIO-1 listed below, adverse direct impacts to CRLF would be less than significant.

Avoidance and Minimization Measures for California Red-legged Frog

AMM BIO-3 CRLF Monitoring: An USFWS approved biologist would be on site during all work that could reasonably result in take. The USFWS approved biologist, through coordination with the Resident Engineer, would have authority to stop work that may result in unauthorized take. USFWS would be notified by telephone and email within one working day if the agency approved biologist exercises this authority. If a CRLF is discovered on site, the biologist and resident engineer would be contacted immediately. If CRLF gains access to a construction zone, work would be halted immediately within 50 feet until it leaves the construction zone or is removed and relocated by the biologist. The USFWS would be notified by telephone and email within one working day if a CRLF is discovered on site.

AMM BIO-4 Preconstruction Surveys: The USFWS approved biologist would conduct preconstruction surveys no more than twenty days prior to any initial ground disturbance and immediately prior to ground disturbing activities or vegetation removal. Surveys would consist of walking and visually inspecting the Project's footprint and adjacent areas within at least fifty feet of the footprint if possible. The USFWS approved biologist would investigate potential cover sites when feasible and safe to do so. Safety permitting, the agency approved biologist would investigate areas of disturbed soil within thirty minutes following initial disturbance for signs of CRLF. Native vertebrates found within the footprint would be documented and relocated to an appropriate habitat outside the footprint.

AMM BIO-5 Weather restriction: Work would not occur during or within twenty-four hours following a rain event exceeding 0.2 inches of precipitation as measured at the Santa Rosa, Sonoma County Airport

AMM BIO-6 Entrapment Prevention: All excavated, steep-walled holes or trenches more than one foot deep would be covered at the close of each working day with plywood or similar materials. Before holes or trenches are filled, they would be thoroughly inspected for trapped animals. Plastic monofilament netting (i.e. erosion control matting) or similar material would not be used. Prior to their arrival on site, all open-ended pipes, culverts, drainage inlet boxes, catch basins, or similar structures would be sealed or capped, and remain capped or sealed until they are installed and operational.

AMM BIO-7 Decontamination: The agency approved biologist would take precautions to prevent introduction of amphibian diseases in accordance with the Revised guidance on *Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005).

AMM BIO-8 Agency Access to Construction Site Safety permitting, at any time during construction activities Caltrans would allow USFWS and CDFW access to the Project footprint to inspect the Project and its activities.

Mitigation Measures for California Red-legged Frog

Mitigation Measure BIO-1 Develop a Mitigation Strategy for CRLF: Caltrans would develop a strategy to mitigate for impacts to CRLF habitat prior to construction if permanent impacts are anticipated to occur. Strategies may include on site or offsite habitat restoration, purchasing credits at an agency approved conservation bank, contributing to property acquisition, or other beneficial measures that would contribute to the recovery of CRLF habitat.

Obscure Bumblebee

The obscure bumblebee is a State Rank S1S2 species; thus, it is considered imperiled and vulnerable to extirpation from the state. The needlegrass grassland, black sage scrub, and coyote brush scrub in the BSA may provide suitable habitat and appropriate food plants for the species. The BSA also contains many burrows. For these reasons there is potential for individuals to nest, forage, or fly through the BSA.

In the Project footprint for a partially buried wall, approximately 0.49 acre of needlegrass grassland, 0.11 acre of black sage scrub, and 0.19 acre of coyote brush scrub is present in the Project footprint. Therefore, approximately 0.79 acre of obscure bumblebee habitat would be potentially impacted.

In the Project footprint for a fully buried wall, approximately 0.53 acre of needlegrass grassland, 0.11 acre of black sage scrub, and 0.21 acre of coyote brush scrub is present in the Project footprint. Therefore, approximately 0.85 acre of obscure bumblebee habitat would be potentially impacted.

Construction activity could potentially destroy nesting chambers and temporarily impact foraging habitat. Individuals would likely avoid the Project area after initial ground disturbance and vegetation clearing, and forage in suitable habitat located outside of disturbed areas. With the proposed Project Features and AMMs the Project would result in less than significant impact on obscure bumblebee.

Avoidance and Minimization Measures for Obscure Bumblebee

AMM BIO-9 Bumblebee Nest Preconstruction Surveys: Preconstruction nesting chamber surveys would be conducted by an agency approved biologist. Surveys would include visual inspections of burrows and other object capable of containing obscure bumblebee nests.

AMM BIO-10 Bumblebee Nest Avoidance: If obscure bumblebee nests are discovered in the BSA, they would be mapped and avoided to the maximum extent possible.

Burrowing Owl

Burrowing Owls have been designated by CDFW as a species of special concern. Existing vegetative cover in the BSA includes open and relatively low needlegrass grassland with suitable perching locations (fence posts, rock outcrops). Several collapsed burrows ranging from four to six inches in diameter were observed in the BSA and one burrow that was approximately eight inches in diameter was observed in grazed pastureland approximately 230 feet from the edge the BSA. The BSA also includes rock piles with large interstitial spaces capable of sheltering burrowing owls. Better sheltering habitat exists outside of the BSA, so it would be expected that any burrowing owls would seek refuge in areas outside the BSA.

Disturbance from heavy equipment could potentially cause any burrows in the BSA to collapse. If burrowing owls were present in the BSA, construction related noise and visual disturbance could potentially cause burrowing owls to abandon burrows or remain sheltered for extended periods of time. Impacts to burrowing owls would be limited to impacts to needlegrass grassland which is foraging habitat for burrowing owls. These impacts are expected to be temporary unless the habitat cannot be recovered within one year, when the impacts would be considered permanent.

With the implementation of the AMMs listed below, no impacts to burrowing owl individuals are anticipated.

Avoidance and Minimization Measures for Burrowing Owl

AMM BIO-11 Preconstruction Burrowing Owl Surveys: To the extent feasible, agency approved biologists would conduct burrowing owl surveys following the CDFW's Staff Report on Burrowing Owl Mitigation (CDFW 2012). If a burrowing owl or occupied burrow or structure is detected in the BSA, or line-of-sight of the BSA, the agency approved biologist would establish an appropriate exclusion buffer and coordinate with CDFW.

American Badger

The American badger has been designated by CDFW as a species of special concern. The nearest CNDDB occurrence record is a cluster of burrows 1.6 miles south of the BSA which were observed in 2010. One potential burrow for American badger was located within the BSA. Therefore, there is the potential for American badgers to forage, den, or disperse throughout the BSA.

Ground disturbance from heavy equipment and vibration from any construction activity could potentially collapse dens if they were within the BSA. Construction related noise or visual disturbance could cause American badgers to abandon dens or stay sheltered in dens for extended periods of time. With the AMMs listed below, no impacts to American badgers are anticipated.

Avoidance and Minimization Measures for American Badgers

AMM BIO-12 Preconstruction American Badger Den Surveys: CDFW approved biologists would conduct American badger den surveys. If an American badger den or individual is detected, agency approved biologists would establish an appropriate exclusion buffer and coordinate with CDFW for technical assistance.

Myrtle's Silverspot Butterfly

The MSB is federally listed as an endangered species under the Federal Endangered Species Act. Potentially suitable habitat (needlegrass grassland) and nectar plants (bull thistle, Italian thistle, and gumweed) were observed on site. For a fully buried wall, 0.53 acre of needlegrass grassland would be impacted, and for a partially buried wall 0.49 acre would be impacted.

Needlegrass grassland would only be considered breeding habitat for MSB if hookedspur violet is present within the needlegrass grassland. If hookedspur violet is

present within needlegrass grassland that is within the Project footprint, then MSB breeding and rearing habitat would potentially be impacted by the Project. The build scenario with fully buried wall would have a larger footprint and more impacts to needlegrass grassland; therefore, it has a higher probability to impact needlegrass grassland that contains hookedspur violet.

Impacts to needlegrass grassland containing hookedspur violets from construction activities could potentially destroy caterpillars resulting in adverse effects to the species. If hookedspur violet does not occur on site, effects to MSB would be insignificant or discountable. Site visits were conducted outside of the blooming period, and therefore, hookedspur violet could not be identified within the BSA.

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

Avoidance and Minimization Measures for Myrtle's Silverspot Butterfly

AMM BIO-13 Hookedspur Violet Surveys: Focused hookedspur violet surveys would begin during the 2020 blooming season and continue until the blooming season before construction begins. Agency approved biologists would reference populations documented from Fort Ross or other nearby populations for blooming trends. If hookedspur violet is discovered in the BSA, Caltrans would coordinate with USFWS for technical assistance. If needed, additional conservation measures would be implemented.

AMM BIO-14 Hookedspur Violet Propagation: If hookedspur violet is located on site during field surveys, hookedspur violet seed would be added to revegetation plans and the native seed mix.

Mitigation Measures for Myrtle's Silverspot Butterfly

Mitigation Measure BIO-2 Develop a Mitigation Strategy for MSB: Caltrans would develop a strategy to offset impact to Myrtle's silverspot butterfly habitat prior to construction if permanent impacts were to occur. Strategies may include on-site or off-site habitat restoration, purchasing credits at an approved conservation bank, contributing to a property acquisition, or other beneficial measures that would contribute to the recovery of Myrtle's silverspot butterfly habitat.

Northern Harrier

The northern harrier has been designated as a species of special concern by CDFW. During field visits, one individual was observed foraging within the BSA. The nearest active nest recorded in the CNDDB was approximately 25 miles southeast of the BSA. However, northern harries have been documented nesting in the Bodega Head quadrangle.

No impacts to northern harriers are anticipated due to the absence of suitable nesting habitat. During construction, migrating and foraging individuals are expected to avoid the BSA, since there is plentiful foraging habitat in the vicinity of the Project.

Osprey

The osprey is currently on CDFW's watchlist. Queries of the CNDDB returned three western osprey occurrence records near the BSA and during field visits one individual was observed flying over the BSA.

No impacts to western ospreys are anticipated due to the absence of suitable nesting and foraging habitat within the BSA.

Peregrine Falcon

The peregrine falcon is on the CDFW Fully Protected list. Two individuals were observed foraging outside of the BSA but within line-of-sight of the BSA. The closest potential nesting habitat is approximately 0.4 miles from the BSA.

No impacts are anticipated due to the absence of suitable nesting habitat. Migrating and foraging individuals are expected to avoid the BSA during active construction due to large tracks of foraging habitat available nearby and outside of the Project area.

b) Less Than Significant with Mitigation

The two build scenarios would have different footprints and would impact different habitat acreages. The footprint for the fully buried wall would be 2.72 acres while the footprint for a partially buried wall would be 2.61 acres. The impacts to the different vegetation communities are summarized in Table 3-1 below. Upland habitat within the Project area is comprised of needlegrass grassland, coyote brush scrub, soft rush marshes, pampas grass patches, fennel patches, bristly ox-tongue patches, and poison oak scrub.

Table 3-1: Vegetation Within Project BSA and Footprints

Vegetation Type	BSA (acres)	Footprint Partially Buried Wall (acres)	Footprint Buried Wall (acres)
Needlegrass Grassland	6.30	0.49	0.53
Coyote Brush Scrub	1.32	0.19	0.21
Soft Rush Marshes	0.18	0	0
Black Sage Scrub	0.43	0.11	0.11
Pampas Grass Patches	1.74	0.28	0.28
Fennel Patches	0.31	0.14	0.14
Bristly Ox-tongue Patches	1.17	0.16	0.21
Poison Oak Scrub	0.26	0.02	0.02
Highway	1.43	1.19	1.19
Rock	0.48	0.03	0.03
Total	13.62	2.61	2.72

The fully buried wall scenario would potentially result in more impacts to needlegrass grassland, coyote brush scrub and bristly ox tongue patches.

According to the 1976 California Coastal Act, ESHAs are any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and could be easily disturbed or degraded by human activities and developments.

The BSA and footprint for both build scenarios include ESHAs composed of needlegrass grassland and seasonal wetlands. Soft rush marshes are an ESHA that is within the BSA but would not be impacted by the Project. Table 3-2 below shows potential impacts to ESHAs.

Table 3-2 Potential Impacts to ESHAs

ESHA	Partially Buried Wall	Entirely Buried Wall
Needlegrass grassland	0.49 acre	0.53 acre
Seasonal Wetland	44 square feet	44 square feet

Impact to ESHAs would be considered temporary if they can be recovered on site and are disturbed for less than one year. Permanent impacts would result if ESHAs remain disturbed for more than one year, if vegetation does not establish within one year

after planting or seeding disturbed areas, or if temporarily impacted ESHAs cannot be recovered on site.

Avoidance and Minimization Measures for ESHAs

AMM BIO-15 Ground Disturbance: Ground disturbance would be limited to the extent feasible to minimize impacts to ESHAs.

AMM BIO-16 ESHA Avoidance: Environmentally Sensitive Area (ESA) Fencing would be installed to protect ESHAs located outside of the Project's footprint before construction begins.

Mitigation Measures for ESHAs

Mitigation Measure BIO-2 Develop a Mitigation Strategy for ESHAs: Caltrans would develop a strategy to offset impacts to ESHAs prior to construction if permanent impacts were anticipated to occur. Strategies may include on-site or off-site habitat restoration, purchasing credits at an approved conservation bank, contributing to a property acquisition, or other beneficial measures that would contribute to the recovery of ESHAs.

c) Less Than Significant with Mitigation

An aquatic resources delineation was conducted for the 13.62-acre BSA.

Impacts to aquatic resources would be equivalent in both scenarios. Temporary, direct impacts to both wetlands and waters are anticipated to occur. In both build scenarios, approximately 0.03 acre of CCC wetlands, 0.02 acre of other waters of the United States, and 0.03 acre of jurisdictional features under the California Fish and Game Code 1602 would be impacted.

Impacts to jurisdictional waters would be considered permanent if aquatic resources remain disturbed for more than one calendar year, or if impacted aquatic resources cannot be recovered on site.

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

Specific compensation for any permanent impacts would be determined through consultation with agencies during the permitting process. With the implementation of the below AMMs and mitigation measure, impacts to aquatic resources would be less than significant.

Avoidance and Minimization Measures for Aquatic Resources

AMM BIO-17 Seasonal Restriction: To the extent feasible, in-water work would be restricted to the period from June 1 to October 30 to avoid and minimize impacts to aquatic resources and avoid impacting sensitive aquatic species.

AMM BIO-18 Diversion and Dewatering: If in-water work cannot be avoided, the contractor would be required submit a Construction Site Dewatering and Diversion Plan to Caltrans for approval prior to any dewatering. The plan would include appropriate collection and disposal strategies. In addition, the contractor would be required to submit an Aquatic Species Relocation Plan.

AMM BIO-19 Wetland Avoidance: ESA fencing would be installed to protect wetlands near the Project footprint before construction begins.

Mitigation Measures for Aquatic Resources

Mitigation Measure BIO-3: Develop a Mitigation Strategy for Aquatic Resources. Caltrans would develop a strategy to offset impacts to aquatic resources prior to construction if permanent impacts were to occur. Strategies may include on-site or off-site habitat restoration, the purchase of credits at an approved conservation bank, a contribution to a property acquisition, or other beneficial measures that would contribute to the recovery of aquatic resources.

d) Less Than Significant

The different habitats within the BSA provide suitable foraging, breeding, and sheltering resources for a multitude of species, including species detected during site visits. The State Park land next to southbound SR 1 includes essential habitat connectivity and is part of the California Bay Area Linkage Network. These habitat connections support critical habitat links to networks of preserve land, open space, undeveloped habitat, and conservation planning linkages. This natural block helps facilitate wildlife movement along the coast and from the coast to inland areas. Maintaining connectivity is essential for the vitality of regional wildlife.

The existing SR 1 facility has ECS that in some areas form sheer drops, which could act as wildlife barriers. To the north and south of the Project limits are walls with exposed faces that create barriers for wildlife.

In both scenarios, installing an ECS with a 60-degree slope could create difficulties for some wildlife moving across the Project area and could discourage some movement. Additionally, the wire frame of the ECS could potentially entangle or injure some wildlife. The ECS also has the potential to improve movement for wildlife that is currently impeded by exposed wall faces to the north and south of the project.

In the partially buried build scenario, the exposed face of the retaining wall could act as a barrier inhibiting wildlife movement. However, there would only be small portions of the wall that would remain unburied, and the majority of the 2,217-foot-long retaining wall would be buried up to the highway, allowing wildlife movement. The impacts to wildlife movement are not expected to be significant due to the limited overall impact from the proposed wall when compared to the obstacles already present in the existing facility.

e) No Impact

There are no local ordinances that apply to this Project. This Project would not conflict with any local policies or ordinances that protect biological resources. 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.

Cultural Resources

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

Caltrans prepared a memorandum on cultural compliance for the Project titled "Office of Cultural Resource Studies (OCRS) Section 106 Review of Proposed Soldier Pile Wall Project at Postmiles 26.7-27.09, on State Route 1, in Sonoma County, California" (Cultural Study; Caltrans 2019f).

The Cultural Study was carried out in a manner consistent with Caltrans' regulatory responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Programmatic Agreement).

a), b), and c) No Impact

The OCRS review consisted of a detailed search of records, maps, plans, and digital files found in Caltrans' Cultural Resources Database, and a Project site visit with the Tribal Historic Preservation Officer of the Kashia Pomo Band of Pomo Indians of the Stewarts Point Rancheria on December 11, 2019. The background research and field investigations identified no historic properties or historical resources within the Area of Potential Effects.

Based on the above, Caltrans has determined that the Project has no potential to affect cultural resources and is exempt from further review pursuant to the Programmatic Agreement, Stipulation VII, "Screened Undertakings" and that there are no historical

resources present for the purposes of CEQA. The Project Features would help ensure there would be no impact to cultural resources.

Energy

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

a) Less Than Significant Impact

The Project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy. During construction, BMPs would be implemented for energy efficiency of construction equipment. During Project operation, energy consumption would be limited to routine maintenance. The impact would be less than significant

b) No Impact

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

Geology and Soils

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

Caltrans investigated impacts to geology and soils from the Project and prepared the *Geologic and Paleontologic Analysis for the Slidesville Soldier Pile Ground Anchor Wall* technical memorandum (Caltrans 2019d). This section summarizes the findings of this review.

The Project would be constructed on fill placed on Franciscan Mélange. Franciscan Mélange consists of blocks of more resistant metamorphic rocks in a matrix of weaker, sheared shale. The eastern part of the Project would be constructed over an existing ECS comprised of Maccaferri Terramesh.

a(i) No Impact

The northern limit of the Project is located approximately 2.5 miles away from the San Andreas fault. However, according to mapping provided by the California Department of Conservation, the Project area is not within an Earthquake Fault Zone. There would be no impact.

a(ii) No Impact

Due to the Project's proximity to the San Andreas fault, the Project area has the potential to experience strong ground shaking. The Project would have no direct or indirect impact on the potential for ground shaking or on the public's risk for loss, injury, or death. The Project would be designed to resist ground-shaking associated with the nearby fault. There would be no impact.

a(iii) No Impact

The Project is not located in an area that is susceptible to liquefaction. The Project would not increase the risk of loss, injury, or death due to liquefaction, so there would be no impact.

a(iv) No Impact

The Project's purpose is to restore the structural integrity of SR 1 that has been compromised due to two landslides within the Project area. The Project would be designed to prevent future landslides, and would not increase the potential for loss, injury, or death due to landslides. There would be no impact.

b) Less Than Significant Impact

The Project would be designed so that no erosion or loss of topsoil would occur as a result, either directly or indirectly, of the Project. The construction bench that would be used for the Project would be buried by the ECS, which would be subsequently planted with native plants to further reduce the possibility of erosion (ECS is further described in Section 2.3.2 Embankment Confinement System and Build Scenarios).

All areas of disturbed soil would be hydroseeded with a native seed mix. There would be a less than significant impact from any erosion or loss of topsoil that may take place.

c) No Impact

Although there are two active landslides currently within the Project area. The Project would be designed to restore structural integrity to these areas and would not cause additional on-site or off-site landslides, lateral spreading, subsidence, liquification, or collapse. There would be no impact.

d), e), and f) No Impact

The Project is not located on expansive soil (as defined in Table 18-1-B of the Uniform Building Code [1994]), and there are no septic tanks, alternative wastewater disposal systems, or any other solid waste disposal facilities planned as part of the Project. Additionally, the Project is not located in an area that contains a geologic unit that is paleontologically sensitive, and the Project does not anticipate the discovery or destruction of any unique paleontological resources. There would be no impact.

Greenhouse Gas Emissions

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

a) and b) Less Than Significant Impact

While the Project would not result in any increase in operational greenhouse gas (GHG) emissions, it is anticipated that the Project would result in GHG emissions during construction.

Operational GHG emissions are emitted through the regular daily use of the highway, since the Project would not increase the capacity of the highway, operational emissions would not increase.

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The analysis focused on vehicle-emitted GHGs, and CO_2 emissions in particular, because CO_2 is the single most important GHG pollutant due to its abundance when compared with other vehicle-emitted GHGs.

Construction-related GHG emissions were calculated using the Road Construction Emissions Model, version 9.0.0, provided by the Sacramento Metropolitan Air Quality Management District. It was estimated that for a construction duration of 24

months, the total amount of CO_2 produced for the construction of the retaining wall would be 1079.51 tons. Total CO_2e emissions (CO_2, CH_4, and N_2O)[1] would be 1091.05 metric tons.

All construction contracts include Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the Project and to certify they are aware of and would comply with all California Air Resource Board (ARB) emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

The Project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of Project features and AMM-TRANS-1: Develop and Implement a Traffic Management Plan, the impact would be less than significant.

[1] Gases are converted to CO_2e, or carbon dioxide equivalent, by multiplying their global warming potential (GWP) compared to CO_2. GWP is a measure of how much energy one ton of a gas will absorb over a given period of time relative to one ton of CO_2.

Hazards and Hazardous Materials

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

Comments from the Hazardous Waste Branch concerning the Project were prepared and included in the Comments from the Office of Environmental Engineering Technical Memorandum (Caltrans 2019e).

a) and b) No Impact

All aspects of the Project associated with removal, storage, transportation, and disposal of hazardous material would be done in accordance with the appropriate California Health and Safety Code. Handling of hazardous materials would comply with Caltrans Standard Specification 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste. Caltrans Standard Specifications BMPs would be implemented to prevent spills or leaks from construction equipment and from storage of fuels, lubricants, and solvents. There are no anticipated impacts.

c) No Impact

There are no existing or proposed schools within a quarter mile of the Project area. There would be no impact.

d) Less Than Significant Impact

Screening of environmental regulatory databases (the State Water Resources Control Board's Geotracker and the California Department of Toxic Substances Control's [DTSC's] EnviroStor) revealed one known hazardous waste site six miles north of the Project limits. Soil sample analytical data collected in this general area of SR 1 shows that there are some contamination concerns, and further site investigation for hydrocarbons and lead may potentially be warranted (Caltrans 2019e). If site investigations conducted in future phase of the Project show evidence of hazardous materials, then Caltrans would require the contractor to follow the appropriate standard specifications for any contaminants. There would be a less than significant impact.

e) No Impact

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

f) Less Than Significant Impact

Emergency Evacuation Plans from the Russian River Fire District plot evacuation routes from the community of Jenner through the Project area. In the event of any emergency that prompts the evacuation of Jenner, Caltrans would coordinate with first responders to facilitate evacuation efforts through the Project area. There would be a less than significant impact.

g) Less Than Significant Impact

The Timber Cove Fire Department serves the Project area which is located in a moderate fire hazard severity zone (CAL FIRE 2007). The Project does not have permanent features that would expose people or structures to risk of loss, injury, or death involving wildland fires. AMM TRANS-1 would reduce fire risk to local residents and the traveling public during construction to less than significant.

Hydrology and Water Quality

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

Caltrans investigated impacts to hydrology and water quality from the Project and prepared the *Hydraulics Recommendation and Estimates* (Caltrans 2019b) and *Water Quality Study* (Caltrans 2019a). This section summarizes the findings of that review.

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

This Project is within the Mendocino Coast Hydrologic Unit, Russian Gulch Area, and Sub-Area 113.90. The Project is within the Lower Russian River Watershed and the Willow Creek Russian River Subwatershed.

The receiving waterbody in the Project area is the Lower Russian River which is about three miles south of the Project.

a) Less Than Significant Impact

Water quality impacts that may result from this Project include increased sediment discharge from approximately 1.2 acres of disturbed soil area and increased runoff from approximately 0.5 acre of net new impervious surfaces. In addition, impacts to water quality during construction may include oil and grease from vehicles and construction equipment, sanitary wastes, chemicals used for equipment, and litter. With the implementation of Project Feature WQ-1 the Project would not substantially degrade surface or groundwater quality. In addition, the Project would not substantially violate water quality standards or waste discharge requirements. Impacts would be less than significant.

b) Less Than Significant Impact

The Project would drill holes that are between 35-45 feet deep for the soldier piles that would serve as the wall's foundation. When drilling to this depth there would be a potential to encounter groundwater which would need to be dewatered to properly construct the Project. Future geotechnical investigations would reveal whether the Project should expect to encounter groundwater, and these results would be available later in the Project development process. Any impacts to groundwater that may occur from dewatering during the placement of piles would be temporary and would not affect the groundwater recharge rate of the Project area after construction is completed. Any potential impact would be less than significant.

c) (i), (ii), and (iii) No Impact

The Project would add 0.5 acre of net new impervious surfaces, which would change the existing drainage pattern of the Project area. This additional impervious surface area would not result in substantial erosion, siltation, or substantially increase the rate or amount of surface runoff resulting in flooding on-site or off-site, create or contribute runoff exceeding the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff. The Project proposes to

replace the existing storm drain system in the Project area as needed, and the storm drain system would be designed using Caltrans standards to accommodate the increased surface runoff. To further reduce the risk of erosion or siltation on- or off-site the Project would implement Project Feature WQ-2 which would place RSP where needed at culvert outflows to reduce any erosion that may occur. With the improved drainage facilities, there would be no impact.

c) (iv) and d) No Impact

According to the Flood Insurance Rate Map 06097C0635F the Project is located in Zone X, an area of minimal flood hazard. These areas are outside the limits of the 0.2% annual (once every 500 years) flood chance. The Project is not located in a tsunami or seiche zone and there is no risk of pollutants being released due to Project inundation or the redirection of flood flows. There would be no impact.

e) No Impact

This Project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact.

Project Features

Project Feature WQ-1 Construction Site BMPs: To prevent or reduce water quality impacts from the Project, BMPs would be deployed for sediment control, pH control, and material management. These BMPs would include measures for job site management, sediment control, tracking control practices, waste management and materials pollution control, non-storm water management, soil stabilization, and wind erosion control.

Project Feature WQ-2 Place RSP Where Needed: RSP dissipaters would be installed at the outlets of culvert replacements if necessary, will be determined during the Project design phase, will be limited to the greatest extent feasible and, will be hidden from view where possible consistent with the Guidelines.

Land Use and Planning

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

a) No Impact

The Project location is in a rural area of Sonoma County, and does not have any potential to physically divide an established community. There would be no impact.

b) Less Than Significant Impact

SR 1 within the Project limits is used as a primary access road to Sonoma County coastal areas, providing access to public parks, beaches, vista points, visitor-serving facilities and coastal residential developments (Sonoma County 2001)

Land uses near the Project include the coastline of the Sonoma Coast, California Department of Parks and Recreation (State Parks) such as Sonoma Coast State Park and Fort Ross State Historic Park, and agricultural lands. No changes in land use are anticipated for the Project area or the Sonoma Coast located near the Project.

The highway is part of the Pacific Coast Bicycle Route. A segment of the California Coastal Trail (CCT), known as the Vista Trail, is located south of the Project limits. No impact to either multi-modal resource is anticipated as a result of the Project activities.

The highway would remain open during construction with one-way reversing traffic control. Lane closures and existing pull-out areas would be used for construction parking, staging, and stockpiling of materials. During the construction and operation phase, the Project would have no effect on public access, tourism and visitor-serving facilities, agricultural lands, or cultural, historic, or paleontological resources.

This section evaluates the consistency of both build scenarios with the below state, regional, and local plans and programs.

CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS AND PROGRAMS

State Scenic Highway Program

SR 1 in Sonoma County is eligible, but not designated, as a State Scenic Highway. This means that the California State Legislature has marked the route as eligible due to its outstanding scenic qualities, but to be officially designated, local governments with jurisdiction over the land abutting the highway must submit an application to Caltrans that includes a "scenic corridor protection program", limiting adjacent development and other land uses. Caltrans would then need to agree that the highway meets the scenic criteria and that the scenic corridor protection program would adequately protect the scenic qualities of the highway. Policy OSRC-3i of the *Sonoma County Open Space and Resource Conservation Element of the Sonoma County General Plan* (Sonoma County 2016) states that the County should "consider requesting official State Scenic Highway designations for Highways 1 and 37."

It is not anticipated that either build scenario's visual resource impacts would affect the eligibility of the highway for the State Scenic Highway Program, and the impact to this program would be less than significant.

Sonoma Coast State Park General Plan

The property on the western side of SR 1 is owned and operated by Sonoma Coast SP. According to the *Sonoma Coast State Park Final General Plan and Environmental Impact Report* (State Parks 2007), "Sonoma Coast SP has become one of the most visited state parks in California." Sonoma Coast SP stretches for 19 miles along the Sonoma County coastline from Bodega Head at the southern end to approximately 0.5 mile north of the northern limits of the Project.

The two build scenarios would have different impacts to Sonoma Coast SP. For the partially buried wall scenario, the Project would obtain through permanent easement or fee acquisition approximately 0.04 acre of State Park land, disturb natural resources on State Park land, and have visual impacts from the partially exposed retaining wall face that would affect the adjacent State Park land. In the completely buried wall scenario, the visual impacts of the Project would be lower, but the Project would acquire 0.17 acre of State Park land. In addition, the fully buried wall would have a larger Project footprint and would have increased impacts to natural resources on State Park land (discussed in Biological Resources). The details and agreement of this acquisition would be finalized in later phases of the Project.

The impacts to visual resources and natural resources as well as the acquisition of State Park land would be inconsistent with the State Park's General Plan; however,

the Project would be consistent with the following goals and guidelines of the Sonoma Coast SP General Plan:

- Guideline ROAD-1C: Coordinate and advocate with Caltrans and Sonoma County to assure that improvement and maintenance of highways in and around Sonoma Coast SP will result in easy and enjoyable driving experience for motorists, consistent with resource management goals and guidelines. Improvements may include the following that are identified by Caltrans:
    - Road widening where feasible;
    - Realignment to correct poor site distance and horizontal curvature
    - Turning lanes at new or existing roads that intersect SR 1, especially if current or future turning movements are heavy enough to reduce the level of service at the intersections;
    - Turning lanes to major parking facilities;
    - Turning restrictions where appropriate;
    - Increased parking management, development, and enforcement programs;
    - Other traffic engineering applications to maintain traffic flow and enhance safety; and
    - Roadside maintenance is conducted in a manner consistent with natural resource and cultural management goals, particularly roadside ditch cleaning, stream crossing maintenance and roadside vegetation management.
- Guideline Road-1G: Coordinate and advocate with Caltrans and Sonoma County to provide sufficient emergency vehicle access on the highways in and around Sonoma Coast SP.

There would be a less than significant impact resulting from inconsistencies with the Sonoma Coast SP General Plan.

Sonoma County General Plan 2020

Both build scenarios of the Project comply with the stated goals of the *Sonoma County General Plan* (Sonoma County 2016), including goals for transportation and safety. The Project supports the following policies, goals, and objectives by providing a safe, reliable road for motorized vehicles and multi-modal users and by incorporating Project features that minimize the Project's visual impact to the surrounding landscape:

- Policy OSRC-3i (discussed above)

- Goal OSRC-3: Identify and preserve roadside landscapes that have a visual quality as they contribute to the living environment of local residents and to the County's tourism economy.

- Objective OSRC-3.1: Designate the scenic corridors on Figures OSRC-5a through OSRC-5i along highways that cross highly scenic areas, provide visual links to major recreation areas, or serve as scenic entranceways to cities.

- Policy OSRC-3h: Design public works projects to minimize tree damage and removal along scenic corridors; where trees must be removed, design replanting programs so as to accommodate ultimate planned highway improvements.

There would be no impact from the Project due to inconsistencies with the Sonoma County General Plan.

Coastal Zone Management Act

The Project lies within the California coastal zone and resources within this zone are protected by the Coastal Zone Management Act of 1972 (CZMA) and the California Coastal Act of 1976 (CCA). The policies established by the CCA include the protection and expansion of public access and recreation; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The CCC is responsible for implementation and oversight under the CCA.

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

Under the Sonoma County LCP, the coast is divided by the Russian River into north and south coast sections. The Project resides within the Sonoma County North Coast Planning Area. The Project is then located in the Muniz-Jenner Highcliffs sub-area of the Sonoma County LCP.

The Project is primarily within the permitting jurisdiction of Sonoma County, and would require a local coastal development permit for construction. However, coastal

development permits issued in accordance with the Sonoma County LCP could be appealable to the CCC.

Near the southern limits of the Project, there is a small segment of the CCT. The segment is a loop trail named the Vista Trail, which begins 0.5 mile south of the Project at a designated parking lot, and from the parking lot, continues west towards the ocean providing sweeping views of the Sonoma Coastline before looping back to the parking lot for a total of approximately one mile. The segment is located outside of the Project limits and would not be impacted by the Project.

The policies of the CCA (PRC Division 20) give the highest priority to the preservation and protection of Prime Agricultural Land and Timber Lands. The next highest priorities are public recreation and visitor serving facilities.

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

Table 3-1 Key Provisions of the California Coastal Act

Policy Number	Subject of Policy	Coastal Zone Assessment (Fully Buried Wall)	Coastal Zone Assessment (Partially Buried Wall)
Section 30210	Maximum public access and recreational opportunities shall be provided.	The Project would not affect access to or recreational opportunities involving the coast. Although the Project proposes to acquire portions of Sonoma Coast SP, the areas the Project would acquire do not provide public access or recreational opportunities.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30211	Development shall not interfere with public access to the sea.	Development would not interfere with the public's access to the coast. In addition, the Project would preserve the public's access to coastal resources by restoring and maintaining the structural integrity of SR 1.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30212	New development Projects shall provide for public access to the shoreline and along the coast.	The Project may be considered a new development. However, providing access from SR 1 to the ocean from this location would require substantial additional Project impacts to fragile coastal resources. Access to the coast also already exists at the nearby (approximately 2.2 miles south) Russian Gulch State Beach.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30252	Public Access	The Project would preserve the public's access to coastal resources as described above. The CCT would not be affected by the Project.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.

Policy Number	Subject of Policy	Coastal Zone Assessment (Fully Buried Wall)	Coastal Zone Assessment (Partially Buried Wall)
Section 30231	Biological activity; water quality	Biological resources would potentially be affected by the Project. However, all impacts would be minimized to the extent feasible and mitigated for when necessary. Areas affected by the Project would be restored to the extent feasible. Project Features, AMMs, and Mitigation Measures are incorporated to minimize the environmental effects to biological resources, wetlands, and water quality. Although the impact to water quality will be the same for the two scenarios, this build scenario would have a larger footprint by approximately 0.11 acre, so impacts to biological activity would be greater than a partially buried wall.	Biological resources would potentially be affected by the Project. However, all impacts would be minimized to the extent feasible and mitigated for when necessary. Areas affected by the Project would be restored to the extent feasible. Project features, AMMs, and Mitigation Measures are incorporated to minimize the environmental effects to biological resources, wetlands, and water quality. Although the impact to water quality will be the same for the two scenarios, this build scenario would have a smaller footprint, so impacts to biological activity would be less than a fully buried wall.
Section 30233	Diking, filing, dredging of wetlands	The Project has been designed to avoid wetlands to the maximum extent feasible. Plans to reduce potential wetland impacts to a no net loss level through on-site restoration or mitigation would be developed during the permitting phase.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30235	Construction altering natural shoreline	The Project would alter the natural shoreline processes by preventing the natural erosion of a coastal bluff. However, the construction of the retaining wall to preserve SR 1 would be permitted because the highway is a crucial route for coastal access for the public.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30240	Environmentally Sensitive Habitat Areas	ESHAs in the Project BSA include wetlands, coastal grasslands, and potential habitat for CRLF. In addition, depending on rare plant surveys during the blooming season, suitable habitat for MSB may be discovered in the BSA. The Project is expected to result in temporary and permanent impacts to ESHAs. Project features and avoidance and minimization measures would be implemented to reduce impacts to ESHAs. Recovery of impacted ESHAs would be accomplished through on-site revegetation and offsite mitigation strategies if	ESHAs in the Project BSA include wetlands, coastal grasslands, and potential habitat for CRLF. In addition, depending on rare plant surveys during the blooming season, suitable habitat for MSB may be discovered in the BSA. The Project is expected to result in temporary and permanent impacts to ESHAs. Project features and avoidance and minimization measures would be implemented to reduce impacts to ESHAs. Recovery of impacted ESHAs would be accomplished through on-site revegetation and offsite mitigation strategies if

Policy Number	Subject of Policy	Coastal Zone Assessment (Fully Buried Wall)	Coastal Zone Assessment (Partially Buried Wall)
		necessary. Specific compensation requirements for potential impacts to waters of the U.S., waters of the State, and CCC wetlands would be determined in coordination with USACE, RWQCB, and CCC during the permitting process. Approximately 0.04 acre more impacts to ESHAs would be expected for this build alternative due to the larger Project footprint. A discussion of the impacts to ESHAs can be found in Biological Resources Section of Chapter 3 of this document.	necessary. Specific compensation requirements for potential impacts to waters of the U.S., waters of the State, and CCC wetlands would be determined in coordination with USACE, RWQCB, and CCC during the permitting process. Approximately 0.04 acre fewer impacts would be expected for this build alternative due to the smaller Project footprint. A discussion of the impacts to ESHAs can be found in Biological Resources Section of Chapter 3 of this document.
Section 30241-30242	Agricultural land	No Prime Farmland or Williamson Act are present within the Project footprint.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30244	Archaeological/Paleontological resources	The Project is not anticipated to have any impact on archaeological or paleontological resources.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30251	Scenic and visual qualities	The fully buried wall would be most consistent with the scenic and visual qualities stipulations of the CCA. With a fully buried wall the Projects permanent visual impacts would be reduced to the widened highway and the extended guardrail lengths.	With a partially buried wall, the Project would have the same permanent visual impacts as the fully buried wall, with the addition of the permanent impacts from exposed timber lagging in various locations throughout the wall's length.
Section 30254	Public works facilities	As per this section, the Project would maintain SR 1's scenic two-lane road character.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30604	Coastal Development permits shall include a finding that the development is in conformity with public access and public recreation policies; housing opportunities for low- and moderate-income persons	The Project would be in conformity with public access and public recreation policies. Creating housing opportunities for low- and moderate-income persons is outside of the scope of this Project.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.
Section 30609.5	State lands between the first public road and the sea; sale or transfer	No state lands would be sold to a private entity as part of the Project.	The impacts from a partially buried wall to this Section of the CCA would not differ from those of a fully buried wall.

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

Policy Subject	Sonoma County LCP Assessment (Fully Buried Wall)	Sonoma County LCP Assessment (Partially Buried Wall)
Shoreline Access	The Project would improve coastal public access by increasing highway safety and reliability by restoring and preserving the structural integrity of SR 1. The Project would minimize emergency road closures to SR 1 that interfere with shoreline access at parks, beaches, and oceanfront land.	The impacts from a partially buried wall to this policy subject of the Sonoma County LCP would not differ from those of a fully buried wall.
Recreation and Visitor-Serving Facilities	The Project would not interfere with public access to the ocean and the beach. A fully buried wall would require 0.17 acres of Sonoma Coast SP land through either permanent easement or fee acquisition. No recreational facilities such as visitor centers, trails, or other designed recreational features would be affected.	The Project would not interfere with public access to the ocean and the beach. A partially buried wall would require 0.04 acres of Sonoma Coast SP land through either a permanent easement or fee acquisition. No recreational facilities such as visitor centers, trails, or other designed recreational features would be affected.
Transportation	The Project would restore and preserve the structural integrity of SR 1, which is listed as the principal north-south route in the LCP. Preserving this route would promote access to coastal resources for the traveling public.	The impacts from a partially buried wall to this policy subject of the Sonoma County LCP would not differ from those of a fully buried wall.
Environmentally Sensitive Habitat Areas (ESHAs)	A fully buried wall would have a larger footprint and would have a greater impact to ESHAs than a partially buried wall. Potential adverse effects to ESHAs have been reduced to the extent practicable through Project Features and AMMs. In Table 3-1 approximate impact acreage is shown.	A partially buried wall would have a smaller footprint and would have a reduced impact to ESHAs when compared to a fully buried wall. ESHAs include soft rush marsh habitat and needlegrass grassland. In Table 3-1 approximate impact acreage is shown.

Policy Subject	Sonoma County LCP Assessment (Fully Buried Wall)	Sonoma County LCP Assessment (Partially Buried Wall)
Agriculture	Any land that would be acquired by the Project would not be agricultural land or land zoned for timber harvest. The Project would not conflict with Agriculture provisions in the Sonoma County LCP.	The impacts from a partially buried wall to this policy subject of the Sonoma County LCP would not differ from those of a fully buried wall.
Public Services	The Project would not adversely affect public works in the Project area. Caltrans would submit the Project to Sonoma County for review, comment, and findings as to its conformity with the LCP during the coastal development review process.	The impacts from a partially buried wall to this policy subject of the Sonoma County LCP would not differ from those of a fully buried wall.
Visual and Scenic Resources	The fully buried wall would be most consistent with the scenic and visual qualities stipulations of the Sonoma County LCP. With a fully buried wall the Project's permanent visual impacts would be reduced to the widened highway and the extended guardrail lengths. Project elements that might otherwise be undesirable visual intrusions in this high-quality visual landscape would be made compatible with the Project's setting. This would be made possible through the modification of those elements based on adherence to the Guidelines (Caltrans 2019c) (AMM AES-1).	With a partially buried wall, the Project would have the same permanent visual impacts as the fully buried wall, with the addition of the permanent impacts from exposed timber lagging in various locations throughout the wall's length. Project elements that might otherwise be undesirable visual intrusions in this high-quality visual landscape would be made compatible with the Project's setting. This would be made possible through the modification of those elements based on adherence to the Guidelines (Caltrans 2019c) (AMM AES-1).
Hazards	The Project would reduce geologic hazards in the coastal zone by securing two separate landslides that threaten the structural integrity of SR 1. The Project is not in a flood hazard area, tsunami zone, earthquake zone, or severe fire hazard zone.	The impacts from a partially buried wall to this policy subject of the Sonoma County LCP would not differ from those of a fully buried wall.

Policy Subject	Sonoma County LCP Assessment (Fully Buried Wall)	Sonoma County LCP Assessment (Partially Buried Wall)
Archaeology/Historic Resources	The Project is not anticipated to impact any archaeological or historical resources.	The impacts from a partially buried wall to this policy subject of the Sonoma County LCP would not differ from those of a fully buried wall.

Sonoma County State Route 1 Repair Guidelines

Caltrans in coordination with the CCC, State Parks, and Sonoma County, prepared the Guidelines (Caltrans 2019c) to promote stewardship and sustainability of state transportation resources through a shared vision with respect to coastal resources within the coastal zone. The Guidelines are not a policy plan but instead provide a framework to enable more timely repairs that are not only functional but are also consistent with the landscape, uses, and regulatory and land management policies associated with SR 1.

Table 3-3 lists the relevant design element from the Guidelines as they related to the Project.

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

Design Element	SR 1 Repair Recommendation	Incorporation into Project
Highway Geometrics	The character of the existing horizontal and vertical alignment should be generally maintained. Curve flattening should be made only when there is an accident history at the location. Design speed should be commensurate: twenty-five to forty mph is acceptable in rural mountainous, rolling, or flat areas and twenty-five mph is acceptable in developed areas.	The Project would not change the geometrics of the roadway. Roadway speed would remain the same.
Shoulder width – Rural Locations	Considerations include avoiding negative project impacts that would be significant under applicable resource protection policies and accommodating cyclists according to project-specific topography and context. Recommendation is for four-foot shoulders unless justified otherwise.	Shoulder widths would be widened to four feet in both directions.
Parking, Pullouts, Unpaved Shoulders, and Turnouts	No net loss of parking, pullouts, or turnouts. Non-pavement treatments should be used where feasible. Other highway uses or development of the area beyond the shoulder should be minimized and fit in with the natural environment. Within the project limits, existing pullouts and turnouts are minimal and there is no official parking.	The Project would not affect parking, pullouts, unpaved shoulders or turnouts.

Railing	Midwest guardrail (MGS) is the preferred railing type where railing is required. Wood posts and matte finish on railing should be used where feasible. White barrier markers on top of the MGS should be used in lieu of delineators.	The project proposes to upgrade existing guardrail to MGS and add additional length of guardrail at one location where there is a geometric safety concern. Wood posts and a matte finish would be incorporated.
Slope Stabilization	Nonstructural options should be considered first, then, where not feasible, other options that can be revegetated with native plants are preferred. Ensure that any pedestrian needs are factored into the final design.	The project proposes to construct a tieback wall to secure slopes in the project area. These walls would be covered or mostly covered with an ECS that would be revegetated.
Retaining Wall – Timber Lagging Walls	Timber lagging is typically used for retaining walls required below the highway.	Timber lagging for the retaining wall will be incorporated and will be mostly or entirely buried with an ECS. Any exposed portions would be stained “leather brown”.
Buried Walls	Retaining walls should be buried, if feasible, and the resulting slope revegetated with appropriate native plants. The Project intends to bury the proposed retaining wall to the maximum extent feasible with an ECS that would be seeded with regionally appropriate native plants.	The Project proposes to mostly or entirely bury the proposed retaining wall. The ECS would be replanted with regionally appropriate native plants.
Drainage Features	Drainage pipes should be hidden from view where feasible. Pipes that cannot be hidden should be colored with earth-tone coating to conceal them. Concrete drainage features should be colored to match adjacent earth tones. Drainage rock used as dissipaters should be colored earth tone to reduce visual impacts. Inlets should be sited outside of where bicyclists are most likely to ride, if feasible, and shall use bicycle-proof grates.	Drainage pipes would be mostly covered by the ECS. Any exposed pipes would be colored with earth-tone coating. If RSP is needed, it will be colored in accordance with the Guidelines. Inlets would be the correct type and be in positions as to not impede cyclists.

Mineral Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

a) and b) No Impact

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

Noise

Would the Project Result In:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Generation of excessive groundborne vibration or groundborne noise levels?				X
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

a), b), and c) No Impact

The Project would not add a new traffic lane or substantially alter the alignments or increase ambient noise levels greater than established standards. Construction noise would be temporary and would be within acceptable levels for construction activity. There would be no generation of excessive ground borne vibration or ground borne noise levels. This Project is not located within the vicinity of a private airstrip or an airport land use plan. There would be no impact.

Population and Housing

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

a) and b) No Impact

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

Public Services

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

a) No Impact

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

Recreation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

Near the Project location there are three State Parks, Sonoma Coast SP, Fort Ross State Historic Park, and Salt Point State Park. Sonoma Coast SP land is adjacent to the Project area, while Fort Ross and Salt point are 5.7 miles and 11.3 miles north of the Project's northern limit respectively. The two build scenarios, a completely buried wall versus a partially buried wall, would have different impacts on Sonoma Coast SP.

a) No Impact

The Project would not directly or indirectly increase the use of existing recreational facilities such that substantial deterioration of the facilities would occur. There would be no impact.

b) Less Than Significant

To construct the build scenario with a fully buried wall, the Project would need to obtain approximately 0.17 acres of right of way from Sonoma Coast SP with either a permanent fee acquisition or a permanent maintenance easement. The Sonoma Coast SP land that would be acquired or held in an easement, would then be disturbed for construction and then covered with an ECS that would be revegetated with regionally appropriate native plants. The Project would not physically affect the remainder of Sonoma Coast SP.

The partially buried wall's footprint would be reduced when compared to the fully buried wall and would require approximately 0.04 acre of Sonoma Coast SP to construct.

For either build scenario, the Project would have a less than significant impact on the environment from the construction on recreational facilities.

Transportation

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

Within the Project corridor, SR 1 consists of two eleven-foot-wide lanes and between zero-to-four-foot shoulders. The Project would not permanently alter the circulation system.

The Project could cause short-term localized traffic congestion and delays due to temporary closures of one lane of SR 1. One-way traffic control would most likely consist of K-rail to separate the one lane of traffic from construction and portable lights to direct traffic flow.

a) Less Than Significant Impact

The Project would not conflict with programs, plans, ordinances, or policies regarding the circulation system, public transit, bicycle, or pedestrian facilities including the *Circulation and Transit Element of the Sonoma County General Plan* (Sonoma County 2016), *Sonoma County's Comprehensive Transportation Plan* (Sonoma County Transportation Authority 2016), or *Countywide Bicycle and Pedestrian Masterplan* (Sonoma County Transportation Authority 2014), nor would it affect the California Coastal Trail (California Coastal Conservancy 2019).

There are limited but daily bus services on SR 1 that are operated by Mendocino Transit Authority (MTA) (No. 95) through the Project corridor. In addition, the Project corridor is part of the Pacific Coast Bicycle Route although the Project corridor currently contains no bike lanes.

As discussed below in AMM TRANS-1, a Traffic Management Plan (TMP) would be developed with input from local partners during the design phase. The TMP would include one-way traffic controls, flaggers, and construction phasing to reduce impacts to local residents and maintain access to destinations along SR 1. As part of the TMP, MTA would be notified prior to construction to minimize service disruption. Impacts would be less than significant.

b) Less Than Significant Impact

This Project is consistent with CEQA Guidelines section 15064.3, subdivision (b) which relates to induced demand and vehicle miles traveled (VMT). The Project would have no impact on VMT since it is not a capacity increasing Project. Under section 15064.3, subdivision (b), transportation Projects that have no impact on VMT should be presumed to cause a less than significant transportation impact.

c) No Impact

This Project would maintain all existing nonstandard highway features, including design speed, lane width, curve radius, cross slope super elevation rate, maximum grade, and sight distance. Throughout the limits of the Project, nonstandard four-foot shoulders would be provided to facilitate cyclists. The addition of 4-foot shoulders throughout the Project area would increase the geometric safety of the highway, providing increased room for cyclists and recovery room for errant vehicles. The Project would upgrade guardrails within the Project limits to MGS and add additional guardrail, which would increase the safety of the highway by absorbing impacts from errant vehicles and limiting the ability of errant vehicles to impact fixed objects outside of the highway prism. The Project would be not increase hazards due to geometric design features or incompatible uses, so there would be no impact.

d) Less Than Significant Impact

Under the TMP (see AMM TRANS-1), medical and emergency vehicles would be able to continue to use routes in the local area to serve fire, medical, and law enforcement purposes. Flaggers would give priority to emergency vehicles. The impact would be less than significant.

Avoidance and Minimization Measures

AMM TRANS-1 Develop a Traffic Management Plan: To offset temporary disruption during construction, a TMP would be developed by Caltrans with input

from local partners during the design phase. The TMP would include one-way traffic controls, flaggers, and construction phasing to reduce impacts to local residents and maintain access for emergency services. The TMP would include requirements for coordination with Sonoma County and public notification in the event of an emergency. The TMP would also ensure access to residential driveways that are near construction activities.

Tribal Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				X

a) and b) No Impact

Caltrans conducted Tribal consultation under Assembly Bill 52 with local tribes. The Kashia Band of Pomo Indians of Stewarts Point Rancheria was the only tribe to respond to requests for consultation. Caltrans conducted a site visit with the Tribal Historic Preservation Officer of the Kashia Pomo on December 11, 2019. No tribal cultural resources within the Project limits were reported or were located during the site visit. It was determined that no tribal cultural resources were within the Project limits. Project Features would ensure that there would be no impact.

Utilities and Service Systems

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

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

There are no utilities within the Project area and therefor no need for relocation. Any water needs would be provided by use of water trucks, no wastewater treatment services, and solid waste would not be generated in excess of State or local standards or capacity of local infrastructure. If solid waste is generated, the Project would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. There would be no impact.

Wildfire

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

The Project work area is entirely within state responsibility areas and is not located in lands classified as very high fire severity (CAL FIRE 2007).

a) Less Than Significant Impact

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

b) and c) No Impact

The Project proposes to install a soldier pile retaining wall on the downslope side of SR 1, and therefore would not have occupants nor would it require the installation of associated infrastructure that would exacerbate fire risk. There would be no impact.

d) Less Than Significant Impact

The Project is in an area that is currently experiencing continual slope movement. The Project is designed to prevent further slope movement caused by natural disasters. Storm water systems would transport highway surface runoff and uphill flows through the Project area, downslope from the project. These systems would be designed to Caltrans standards and would not cause downslope flooding or landslides. There would be a less than significant impact.

Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X

a) Less Than Significant with Mitigation

The Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number of or restrict the range of a rare or endangered plant or animal. The proposed Project would have temporary construction impacts. The Project has the potential to significantly impact CRLF upland habitat, aquatic resources, and ESHAs. With the implementation of the Project Features and AMMs summarized in Appendix B and Mitigation Measures BIO-1, BIO-2, and BIO-3, these potentially significant impacts would be reduced to less than significant with mitigation.

The Project would not eliminate important examples of the major periods of California history or prehistory. Project Features and AMMs would avoid or minimize potential impacts on biological, and cultural resources.

b) No Impact

The Project proposes the construction of a tieback soldier pile retaining wall on the west side of SR 1 in a rural environment. There are three other projects in the early stages of project development whose limits include the Project area. These projects include a project to install rumble strips at certain locations between PM 0-58.36 on SR 1, a project to rehabilitate culverts at spot locations between PM 1 and 28.7 on SR 1, and a Capital preventative maintenance pavement restoration project at locations between PM 24.2 and 30.5. Cumulative impacts would not be expected from these projects. There would be no impact.

c) No Impact

This Project does not have environmental effects that would cause substantial adverse effects on human beings either directly or indirectly.

Chapter 4 Comments and Coordination

September 10, 2019: Caltrans Biologist Daniel Palmer contacted USFWS Liaison John Cleckler via email and requested technical assistance.

November 21, 2019: Daniel Palmer and Caltrans Biologist Tommy Kelley met with John Cleckler on site for technical assistance. After reviewing the site and discussing soldier pile wall construction methods, existing habitat conditions, and potential for CRLF (*Rana draytonii*,) to occur, Caltrans determined the Project may affect and is likely to adversely affect CRLF.

December 9, 2019: Via email, contacted John Cleckler and reported Caltrans' plan of action was to proceed with informal consultation for Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*) but reinitiate for formal consultation if large patches of hookedspur violet (*Viola adunca*) are discovered.

December 11, 2019: Caltrans personnel from the District 4 Office of Cultural Resource Studies met with the Tribal Historic Preservation Officer at the Project site.

Chapter 5 List of Preparers

Caltrans District 4

Christopher Caputo	Office of Environmental Analysis
Arnica MacCarthy	Office of Environmental Analysis
Maxwell Lammert	Office of Environmental Analysis
Nicholas Piucci	Office of Environmental Analysis
Kathryn Rose	Office of Cultural Resource Studies
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Susan Lindsay	Office of Landscape Architecture
Chris Else	Office of Landscape Architecture
Robert Blizard	Office of Biological Sciences and Permits
Daniel Palmer	Office of Biological Sciences and Permits
Kevin Krewson	Office of Environmental Engineering (Air/Noise)
Jesse Han	Office of Environmental Engineering (Air/Noise)
Kamran Nakhjiri	Office of Environmental Engineering (Water Quality)
Saman Soheilifard	Office of Environmental Engineering (Water Quality)
Chris Wilson	Office of Environmental Engineering (Hazardous Waste)
Kathleen Reilly	Office of Hydraulic Engineering
Christopher Risden	Office of Geotechnical Design – West
Hillal Hamdan	Office of Design – SHOPP

Arvind Sidhu	Office of Design – SHOPP
Lillian Acorda	Office of Project Management

Chapter 6 Distribution List

The Initial Study with Proposed Mitigated Negative Declaration will be circulated by April 30, 2020, to the following agencies and government officials:

Agencies

U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers

North Coast Regional Water Quality Control Board

California Department of Fish and Wildlife

California Department of Parks and Recreation

California Coastal Commission

Governor's Office of Planning and Research

Sonoma's County Clerk

Elected Officials

U.S. Senator Dianne Feinstein

U.S. Senator Kamala D. Harris

California Senator Mike McGuire

U.S. Congressman Mike Thompson

Assembly Member Jim Wood

Sonoma County Supervisor Lynda Hopkins

Appendix A Title VI Non-Discrimination Policy

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

DEPARTMENT OF TRANSPORTATION
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Making Conservation a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

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

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

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi.

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

Toks Omishakin
Director

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

Appendix B Summary of Project Features and Avoidance and Minimization Measures

Project Features

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

Project Feature AQ-2 Air Pollution Control: Caltrans Standard Specifications Section 14-9.02, Air Pollution Control, requires contractors to follow all air pollution control rules, regulations, ordinances, and statutes.

Project Feature BIO-1 Worker Awareness Training: The resident engineer would contact the agency approved biologist seven calendar days before the initial preconstruction meeting to request environmental training. All construction personnel would attend a mandatory environmental education program facilitated by an agency approved biologist before construction begins. Training sessions would be repeated for all new personnel before they are allowed access to the job site. All personnel would complete the training and sign a form stating that they completed the training and understand all applicable agency regulations and consequences of noncompliance. Training would be provided in foreign languages as needed. Caltrans would keep the forms on file and make them available to regulatory agencies on request. The training would include a minimum of:

- A description of special-status species that could potentially occur on site.
- A discussion of applicable agency regulations and consequences of noncompliance.
- A review of the Project's conservation measures (PFs and AMMs) and how impacts would be avoided by implementing the measures.

Project Feature BIO-2: Environmentally Sensitive Areas. The contractor would be required to place temporary high visibility barrier fencing along the boundaries of environmentally sensitive areas (ESAs) to avoid impacts to sensitive habitat, plants, and animals. ESAs would be defined with high visibility fencing, lathing stakes and tape, or pin flags as appropriate. The materials used to identify the locations would be removed at the end of construction. ESAs would be delineated on construction plans.

Project Feature BIO-3: Bird Protection Measures. To avoid take of migratory birds during the bird nesting season (February 1 to September 30): To the extent practicable, vegetation removal would only occur between October 1 and January 31. Vegetation trimming, or removal would not occur outside of the Project footprint. Agency approved biologists would conduct preconstruction nesting bird surveys no more than three days prior to construction. If an active nest is discovered, agency approved biologists would establish an appropriate exclusion buffer around the nest. The area within the buffer would be avoided until the young are no longer dependent on the adults or the nest is no longer active. If a nesting special-status bird species is discovered, an agency approved biologist would notify the USFWS and/or CDFW for further guidance. Partially constructed and inactive nests would be removed to prevent occupation.

Project Feature BIO-4: Revegetation and Weed Control. To comply with Executive Order 13112: The contractor would minimize the spread of invasive and nonnative plant species. If noxious weeds are disturbed or removed during construction-related activities, the contractor would contain the noxious weeds and associated plant material and dispose of them in a manner that would not promote 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, disturbed areas within the Footprint would be covered with heavy black plastic solarization material until the end of the Project.

Project Feature BIO-5: Speed Limit. Vehicles would not exceed 15 miles per hour in the Project footprint to reduce dust and excessive soil disturbance.

Project Feature BIO-6: Trash Control. Food and food related trash items would be secured in sealed trash containers and removed from the site at the end of each day.

Project Feature BIO-7: Pets. Pets would be prohibited from entering the BSA.

Project Feature BIO-8: Firearms. Firearms would be prohibited within the BSA except for those carried by authorized security personnel or local, state, or federal law enforcement.

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

Project Feature CULT-2 Additional Actions if Cultural Materials Contain Human Remains: If Caltrans Professionally Qualified Staff determines that cultural materials contain human remains, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains. Caltrans' OCRS would contact the Sonoma County Coroner. Pursuant to PRC Section 5097.98, if the remains are thought by the coroner to be Native American, the coroner would notify the Native American Heritage Commission, which would then notify the Most Likely Descendent. The Caltrans OCRS would work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Project Feature GHG-1 Emissions Reduction: Caltrans Standard Specifications Section 7-1.02A and 7-1.02C, Emissions Reduction, require contractors to comply with all laws applicable to the Project and to certify they are aware of and would comply with all ARB emission reduction regulations.

Project Feature TRIBE-1 Protect Discovered Tribal Cultural Resources with Temporary Fencing: If any tribal cultural resources are found during construction, a qualitied Caltrans archaeologist shall determine whether the resources can be avoided by the Project. If the resources can be avoided, the resources would be delineated on the ground with temporary fencing and avoided by construction. No construction-related activities or staging are permitted within these areas.

Project Feature WQ-1 Construction Site BMPs: The project would be compliant with the Construction General Permit issued by the State Water Resources Control Board and with the Provisions of the Caltrans Statewide National Pollution Discharge Elimination System permit. The contractor would be required to prepare and submit a Construction Site Dewatering and Diversion Plan and Stormwater Pollution Prevention Plan for approval. The contractor would adhere to the instructions,

protocols, and specifications, outlined in the most current Caltrans Construction Site Best Management Practices Manual and Caltrans Standard Specifications. At a minimum, protective measures would include the following:

- Disallowing discharging of pollutants from vehicle and equipment cleaning into storm drains or watercourses
- Storing or servicing vehicles and construction equipment including fueling, cleaning and maintenance at least 50 feet from aquatic habitat unless separated by a topographic or drainage barrier.
- Maintaining equipment to prevent the leakage of vehicle fluids such as gasoline, oils, or solvents and developing a Spill Response Plan. 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.
- Collecting and disposing of concrete wastes and water from curing operations in appropriate washouts located at least 50 feet from watercourses.
- Using water trucks and dust palliatives to control dust and covering temporary stockpiles.
- Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment.
- Protecting graded areas from erosion using a combination of silt fences, fiber rolls, and erosion control netting (jute or coir) as appropriate.

Project Feature WQ-2 Place RSP Where Needed: RSP dissipaters would be installed at the outlets of culvert replacements if necessary. RSP would prevent erosion below the culverts.

Avoidance and Minimization Measures

AMM AES-1 Buried Wall Face: The proposed retaining wall would be buried to the maximum extent practical, either entirely or in great majority. The resultant slope and all other disturbed areas will be revegetated with native seed.

AMM AES-2 Comply with the Guidelines: Changes to the highway geometric features such as curvature, lane width, and shoulder width will be minimized in accordance with the Guidelines when feasible.

AMM AES-3 MGS Considerations: MGS is proposed only where supported by highway conditions. Limiting the addition of MGS further minimizes view-cluttering components. MGS proposed shall be consistent with the Guidelines when feasible.

AMM BIO-1 Botanical Surveys: Botanical surveys would be conducted in accordance with CDFW protocols during the 2020 blooming season (February through November). Focused surveys would be conducted during the 2021 blooming season if needed. The NES would be updated with the results, and additional conservation measures would be included if necessary.

AMM BIO-2 Special-status Plant Avoidance: If found during surveys, ESA fencing would be identified on the Project plans, and installed to protect special-status plants before construction begins, and the agency approved biologist would coordinate with USFWS and/or CDFW for technical assistance

AMM BIO-3 CRLF Monitoring: An USFWS approved biologist would be on site during all work that could reasonably result in take. The USFWS approved biologist, through coordination with the Resident Engineer, would have authority to stop work that may result in unauthorized take. USFWS would be notified by telephone and email within one working day if the agency approved biologist exercises this authority. If a CRLF is discovered on site, the agency approved biologist and resident engineer would be contacted immediately. If CRLF gains access to a construction zone, work would be halted immediately within 50 feet until it leaves the construction zone or is removed and relocated by the agency approved biologist. The USFWS would be notified by telephone and email within one working day if a CRLF is discovered on site.

AMM BIO-4 Preconstruction Surveys: The USFWS approved biologist would conduct preconstruction surveys no more than twenty days prior to any initial ground disturbance and immediately prior to ground disturbing activities or vegetation removal. Surveys would consist of walking and visually inspecting the Project's footprint and adjacent areas within at least fifty feet of the footprint if possible. The USFWS approved biologist would investigate potential cover sites when feasible and safe to do so. Safety permitting, the agency approved biologist would investigate areas of disturbed soil within thirty minutes following initial disturbance for signs of CRLF. Native vertebrates found within the footprint would be documented and relocated to an appropriate habitat outside the footprint.

AMM BIO-5 Weather restriction: Work would not occur during or within twenty-four hours following a rain event exceeding 0.2 inches of precipitation as measured at the Santa Rosa, Sonoma County Airport

AMM BIO-6 Entrapment Prevention: All excavated, steep-walled holes or trenches more than one foot deep would be covered at the close of each working day with plywood or similar materials. Before holes or trenches are filled, they would be thoroughly inspected for trapped animals. Plastic monofilament netting (i.e. erosion control matting) or similar material would not be used. Prior to their arrival on site, all open-ended pipes, culverts, drainage inlet boxes, catch basins, or similar structures would be sealed or capped, and remain capped or sealed until they are installed and operational.

AMM BIO-7 Decontamination: The agency approved biologist would take precautions to prevent introduction of amphibian diseases in accordance with the Revised guidance on *Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005).

AMM BIO-8 Agency Access to Construction Site Safety permitting, at any time during construction activities Caltrans would allow USFWS and CDFW access to the Project footprint to inspect the Project and its activities.

AMM BIO-9 Bumblebee Nest Preconstruction Surveys: Preconstruction nesting chamber surveys would be conducted by a qualified agency approved biologist. Surveys would include visual inspections of burrows and other object capable of containing obscure bumblebee nests.

AMM BIO-10 Bumblebee Nest Avoidance: If obscure bumblebee nests are discovered in the BSA, they would be mapped and avoided to the maximum extent possible.

AMM BIO-11 Preconstruction Burrowing Owl Surveys: To the extent feasible, agency approved biologists would conduct burrowing owl surveys following the CDFW's Staff Report on Burrowing Owl Mitigation (CDFW 2012). If a burrowing owl or occupied burrow or structure is detected in the BSA, or line-of-sight of the BSA, the agency approved biologist would establish an appropriate exclusion buffer and coordinate with CDFW.

AMM BIO-12 Preconstruction American Badger Den Surveys: CDFW approved biologists would conduct American badger den surveys. If an American badger den or individual is detected, agency approved biologists would establish an appropriate exclusion buffer and coordinate with CDFW for technical assistance.

AMM BIO-13 Hookedspur Violet Surveys: Focused hookedspur violet surveys would begin during the 2020 blooming season and continue until the blooming season before construction begins. Agency approved biologists would reference populations documented from Fort Ross or other nearby populations for blooming trends. If hookedspur violet is discovered in the BSA, Caltrans would coordinate with USFWS for technical assistance. If needed, additional conservation measures would be implemented.

AMM BIO-14 Hookedspur Violet Propagation: If hookedspur violet is located on site during field surveys, hookedspur violet seed would be added to revegetation plans and the native seed mix.

AMM BIO-15 Ground Disturbance: Ground disturbance would be limited to the extent feasible to minimize impacts to ESHAs.

AMM BIO-16 ESHA Avoidance: Environmentally Sensitive Area (ESA) Fencing would be installed to protect ESHAs located outside of the Project's footprint before construction begins.

AMM BIO-17 Seasonal Restriction: To the extent feasible, in-water work would be restricted to the period from June 1 to October 30 to avoid and minimize impacts to aquatic resources and avoid impacting sensitive aquatic species.

AMM BIO-18 Diversion and Dewatering: If in-water work cannot be avoided, the contractor would be required submit a Construction Site Dewatering and Diversion Plan to Caltrans for approval prior to any dewatering. The plan would include appropriate collection and disposal strategies. In addition, the contractor would be required to submit an Aquatic Species Relocation Plan.

AMM BIO-19 Wetland Avoidance: ESA fencing would be installed to protect wetlands near the Project footprint before construction begins.

AMM TRANS-1 Develop a Traffic Management Plan: To offset temporary disruption during construction, a TMP would be developed by Caltrans with input from local partners during the design phase. The TMP would include one-way traffic

controls, flaggers, and construction phasing to reduce impacts to local residents and maintain access for emergency services. The TMP would include requirements for coordination with Sonoma County and public notification in the event of an emergency. The TMP would also ensure access to residential driveways that are near construction activities.

Appendix C Table of Abbreviations

Abbreviation	Definition
AES	Aesthetics
AMM	Avoidance and Minimizaton Measure
AQ	Air Quality
ARB	California Air Resource Board
BIO	Biology
BMP	Best Management Practice
CA	California
Caltrans	California Department of Transportation
CCA	California Coastal Act
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO_2	Carbon Dioxide
CO_{2e}	Carbon Dioxide Equivalent
CNPS	California Native Plant Society
CULT	Cultural
CZMA	Coastal Zone Management Act
EA	Expense Authorization
ECS	Embankment Confinement System
EIR	Environmental Impact Report
ESA	Environmentaly Sensitive Area

Abbreviation	Definition
GHG	Greenhouse Gas
LCP	Local Coastal Plan
MBGR	Metal Beam Guardrail
MGS	Midwest Guadrail System
MSB	Myrtle's Silverspot Butterfly
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Admistration
OCRS	Caltrans District 4 Office of Cultural Resource Studies
PM	Post Mile
PRC	Public Resources Code
ROW	Right of Way
RSP	Rock Slope Protection
SR	State Route
TMP	Traffic Management Plan
TRANS	Transportation
TRIBE	Tribal Cultural Resources
TTY	Text to Telephone
USACE	United States Army Corp of Engineers
USFWS	United Stated Fish and Wildlife Service
VIA	Visual Impact Assessment
VMT	Vehicle Miles Travelled

Abbreviation	Definition
WQ	Water Quality

Appendix D List of Technical Studies and References

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USFWS. 2014. Programmatic informal consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2. Programmatic Letter of Concurrence (PLOC) between

Caltrans and U.S Fish and Wildlife Service. AFWO-12B0001-12I0001. Link to PLOC between Caltrans and USFWS.

USFWS. 2019a. Information for Planning and Consultation (IPaC) System. Link to the IPaC System. Accessed August 2019-February 2020

USFWS. 2019b. National Wetlands Inventory Map. Link to National Wetlands Inventory Map.

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