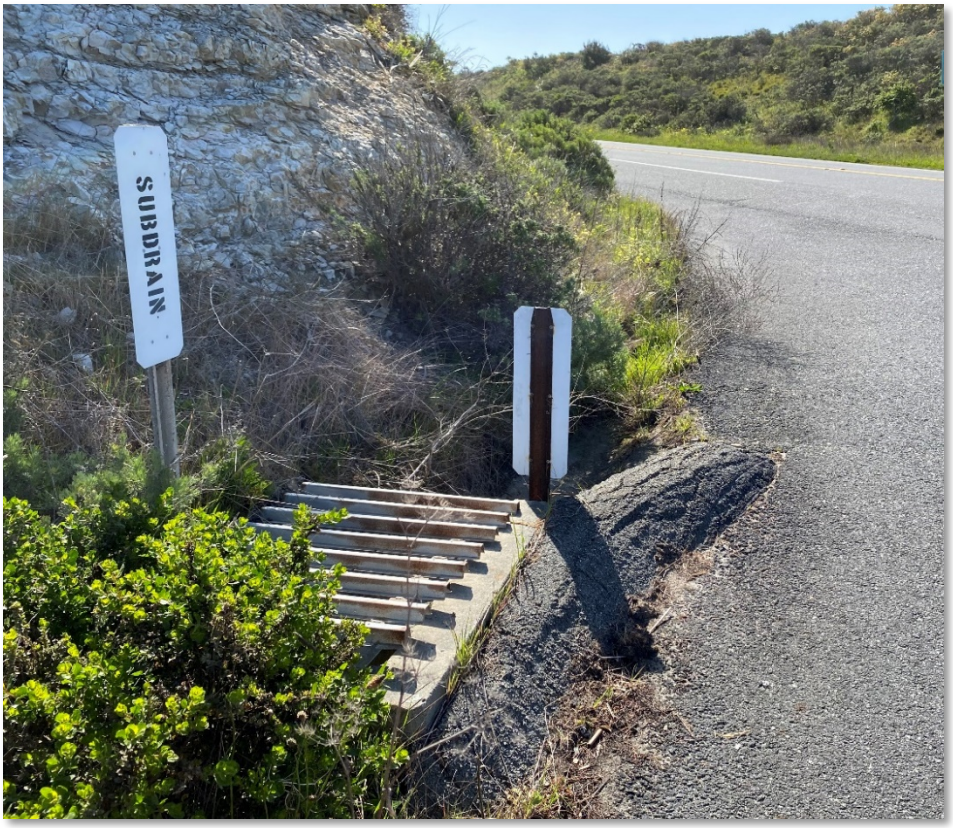
Santa Cruz 1 Roadside Safety and Drainage System Improvement

On State Route 1 in Santa Cruz County
05-SCR-1-PM 8.2/26.0
Project EA 05-1J960, Project ID 0518000093

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

July 2022

Caltrans

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Santa Cruz County in California. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each alternative, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans District Office at 50 Higuera Street, San Luis Obispo, California 93401. This document can also be accessed at the Caltrans District 5 Current Projects website: https://dot.ca.gov/caltrans-near-me/district-5/district-5-current-projects.
- Tell us what you think. If you have any comments regarding the proposed project, please send your written comments and/or a request for a virtual public meeting to Caltrans by the deadline. Submit comments via U.S. mail to: Jason Wilkinson, California Department of Transportation, 50 Higuera Street, San Luis Obispo, California 93401; contact Jason Wilkinson by phone at 805-540-9165, or submit comments via email to: jason.wilkinson@dot.ca.gov.
- Submit your written comments by the deadline: August 26, 2022.

What happens next:

After comments are received from the public and the reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Jason Wilkinson, District 5 Environmental, 50 Higuera Street, San Luis Obispo, California 93401; phone number 805-540-9165 (Voice), or use the California Relay Service 1-800-735-2929 (Teletype to Voice), 1-800-735-2922 (Voice to Teletype), 1-800-855-3000 (Spanish Teletype to Voice and Voice to Teletype), 1-800-854-7784 (Spanish and English Speech-to-Speech), or 711.

05-SCR-1-PM 8.2/26.0
Project EA 05-1J960
Project ID 0518000093

Rehabilitate drainage culverts, add lighting, add or replace Transportation Management System elements, and pave gore areas along State Route 1 from 0.5 mile north of Larkin Valley Road to Laguna Road in Santa Cruz (post miles 8.2 to 26.0) in Santa Cruz County

INITIAL STUDY with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
and
California Transportation Commission

Jason Wilkinson For John Luchetta

John Luchetta
Deputy District Director, Environmental Analysis, District 5
California Department of Transportation
CEQA Lead Agency

6/16/22
Date

The following individual can be contacted for more information about this document:

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DRAFT
Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: Pending

District-County-Route-Post Mile: 05-SCR-1-8.2/26.0

EA/Project Identification: 05-1J960, 0518000093

Project Description
The California Department of Transportation (Caltrans) proposes to restore multiple drainage culverts, rehabilitate numerous lighting elements, install several Transportation Management Systems and pave gore areas along State Route 1 in Santa Cruz County from 0.5 mile north of Larkin Valley Road to Laguna Road in Santa Cruz (post miles 8.2 to 26.0).

Determination
Caltrans District 5 has prepared this Initial Study with Proposed Mitigated Negative Declaration to give notice to interested agencies and the public that Caltrans intends to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision regarding this project is final. The Initial Study with Proposed Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

On the basis of this study, it is determined that the proposed action would have no effect on agriculture and forest resources, cultural resources, energy, geology and soils, land use planning, noise, mineral resources, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire.

The project would not have a significant effect on aesthetics/visual resources, air quality, greenhouse gas emissions, hydrology and water quality, and hazards and hazardous materials with the implementation of Caltrans' Standard Specifications, Standard Special Provisions, and avoidance and minimization measures described in the Initial Study and associated documents.

The project will have no significant effect on biological resources because the following mitigation measures will reduce potential impacts to less than significant:

- **BIO-8:** Temporary impacts to jurisdictional waters shall be restored at a 1-to-1 ratio (acreage). Compensatory mitigation shall be provided at a 3-to-1 ratio (acreage) for permanent impacts to jurisdictional waters. Replacement plantings

shall include appropriate native tree and understory species. To ensure replacement planting success, monitoring and an appropriate plant establishment period will be required, which will include annual inspections, weeding, and replacement of unsuccessful plants, if needed. It is likely that a 1-year plant establishment period will be required.

- **BIO-9:** Native trees shall be replanted at a minimum 10-to-1 replacement ratio within or adjacent to existing woodlands or riparian areas within the Caltrans right-of-way within the project area as part of the project's landscaping plans.

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John Luchetta
Deputy District Director, Environmental Analysis, District 5
California Department of Transportation

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Date

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Chapter 1 Proposed Project

1.1 Introduction

State Route 1 is the main route connecting the southern and central areas of Santa Cruz County and is the only continuous commuter route linking Watsonville, Capitola, Aptos, Cabrillo College, Santa Cruz, and the University of California, Santa Cruz. State Route 1 is also the southern end for State Route 9 and State Route 17 and brings heavy tourist traffic to coastal destinations in Santa Cruz and Monterey counties.

The Santa Cruz 1 Roadside Safety and Drainage System Improvements project runs along State Route 1 where it passes through Santa Cruz County from 0.5 mile north of Larkin Valley Road to Laguna Road in Santa Cruz (post miles 8.2 to 26.0). The project would restore 30 existing drainage culverts, improve 47 roadside safety locations, rehabilitate 32 lighting elements, and install 12 Transportation Management System elements. The area of potential impact includes culvert areas, gore areas, shoulder widening locations, lighting locations, and counts and loops locations.

Figure 1-1 shows the project vicinity, and Figure 1-2 shows the locations where improvements are proposed. Several project locations are within the boundaries of the Coastal Zone, as shown in Figure 1-3.

The project is included in the 2020 State Highway Operational Protection Program, under the Asset Management guidelines to meet culvert goals. Roadside safety, lighting elements, Transportation Management Systems and complete street assets were assessed throughout the project limits and added to this project as feasible. Project construction is expected to start in 2025 and span approximately two years. The current programmed cost for the construction of the Build Alternative is approximately $12,400,000.

Caltrans, as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act (known as NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (known as CEQA). As the NEPA lead, Caltrans is preparing a separate Categorical Exclusion document for the project. As the CEQA lead, Caltrans has prepared this document—an Initial Study with Proposed Mitigated Negative Declaration—for the project.

Figure 1-1 Project Vicinity Map

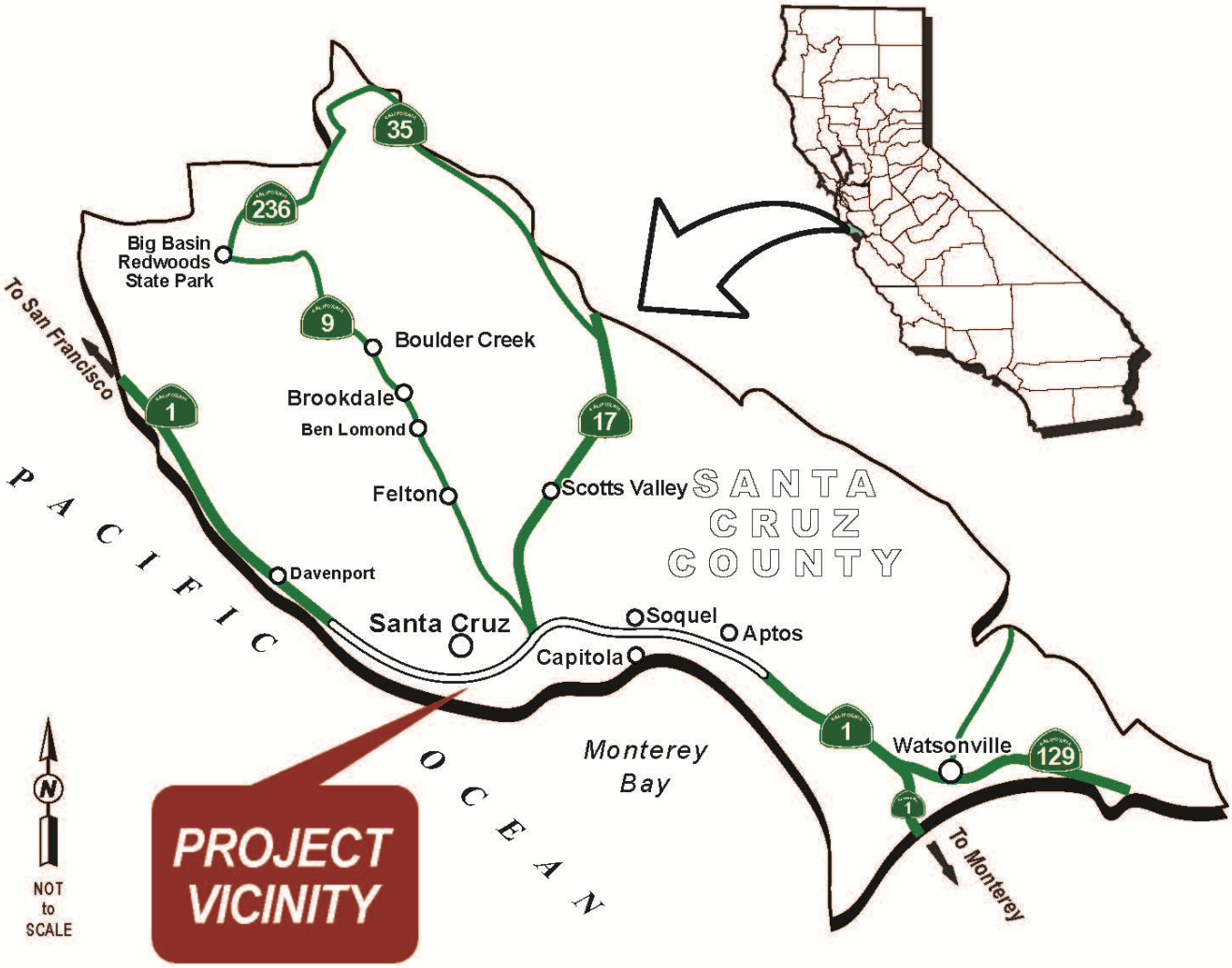


Figure 1-2 Project Location Map

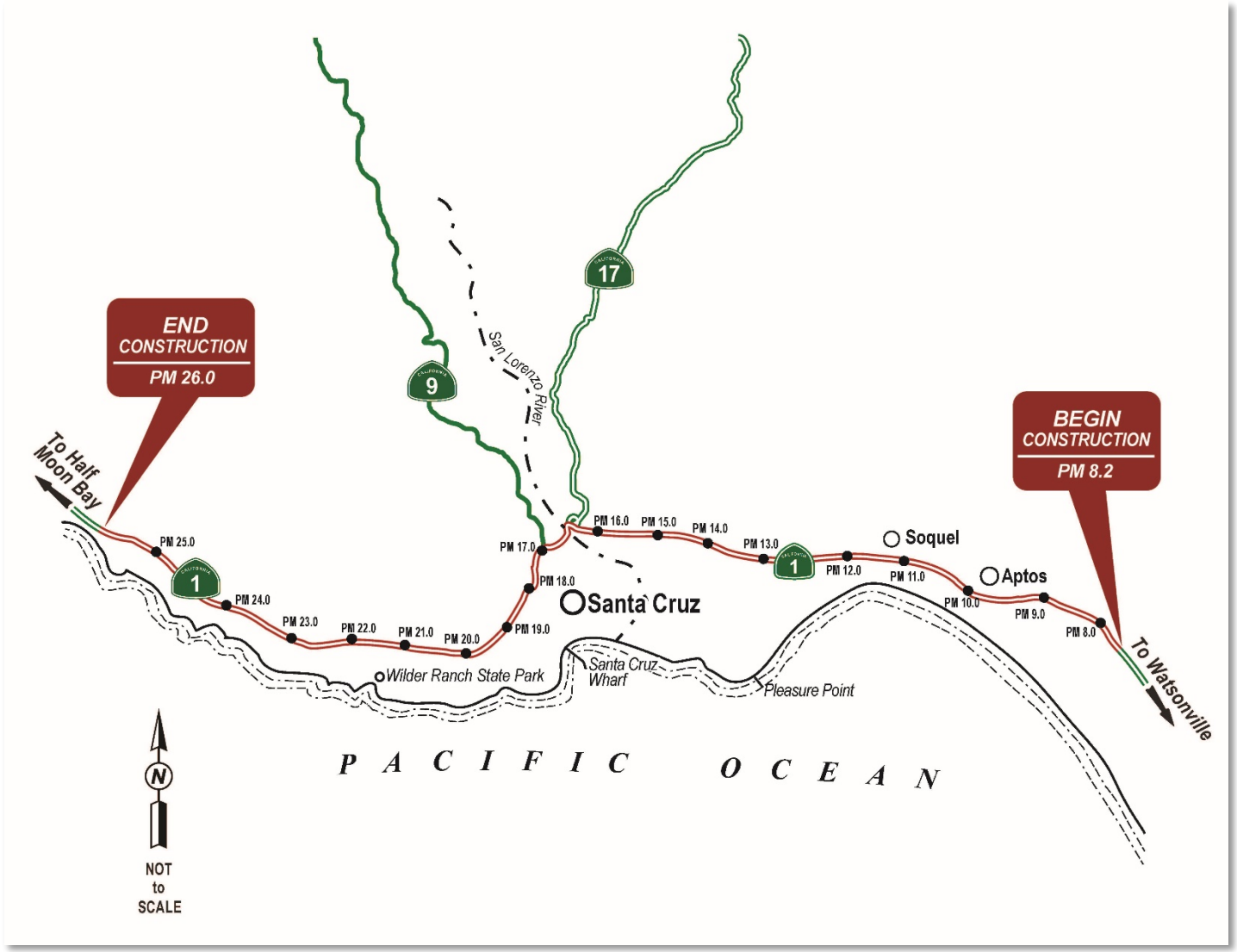
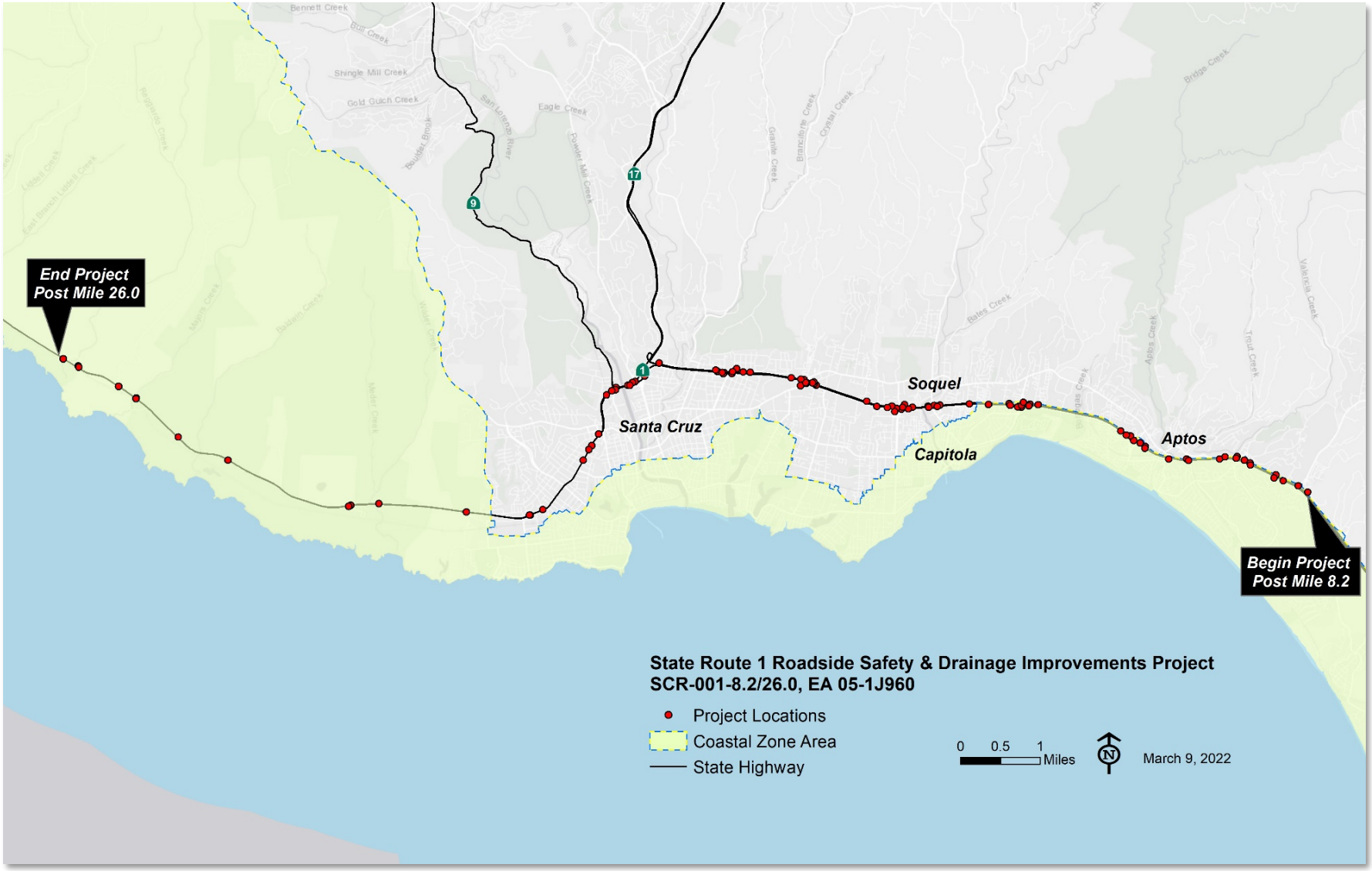


Figure 1-3 Coastal Zone Location Map



1.2 Purpose and Need

1.2.1 Purpose

- Improve and restore culverts to their water conveyance purpose, which protects embankments and roadways from potential failure.
- Improve maintenance worker safety and roadside maintainability.
- Replace existing lighting elements that are beyond their useful life and install additional lighting elements to enhance lighting conditions at new locations.
- Replace and add Transportation Management System elements to improve the collection of traffic data and notify the traveling public of traffic conditions.

1.2.2 Need

- As documented in the Drainage System Reports for the culverts within the project limits, many deficiencies were noted. These include corroded or worn pipe inverts, perforated pipe sections, joint offsets, and significant ditch, channel, and slope erosion, all of which lead to lower water conveyance capacities and costly emergency repairs.
- The identified gore areas frequently expose maintenance workers to high speed traffic and need to be addressed for roadside safety.
- The District Electrical Unit recommended the rehabilitation of lighting elements that have reached the end of their service life within the project limits.
- Without the proposed Transportation Management System improvements, traffic information collected from within the project limits might be unreliable.

1.3 Project Description

The State Route 1 corridor in Santa Cruz County has a mixed urban and rural character. State Route 1 serves as the main connection between the communities of Santa Cruz and Monterey. The corridor is also the main coastal route between the San Francisco Bay Area and the Big Sur Coast and is an important transportation link for long-distance travel for both business and leisure. In addition, it is an important route for freight movement by truck and rail.

The project lies along State Route 1 where it passes through the Santa Cruz area in Santa Cruz County from post miles 8.2 to 26.0. The project would

restore 30 culverts, improve 47 roadside safety locations, rehabilitate 32 lighting elements, and install 12 Transportation Management System elements. The area of potential impact includes culverts, gore areas, shoulder widening locations, lighting locations, and counts and loops locations.

Temporary access roads may be constructed for culvert construction due to steep slopes. It is anticipated that tree removal and pruning will be required at 9 culvert repair locations. Tree removal locations will be refined through project development, and pruning will be in accordance with standard practices. It is anticipated that replacement planting and a one-year plant establishment period will be required to compensate for biological impacts associated with the removal of 9 trees impacted by construction. Tree replanting will be included in the project plans to offset the loss of any trees.

The project will require a Clean Water Act Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Clean Water Act Section 401 Water Quality Certification from the Regional Water Quality Control Board, a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife, and a Coastal Development Permit from the California Coastal Commission pursuant to the California Coastal Act. A Mitigation and Monitoring Plan will be prepared to mitigate impacts to jurisdictional areas and coastal Environmentally Sensitive Habitat Areas. (Environmentally Sensitive Habitat Areas or ESHAs are defined in California Coastal Act Section 30107.5 as “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 which could be easily disturbed or degraded by human activities and developments.”) Please refer to Section 2.1.4 Biological Resources, Section 2.1.5 Coastal Zone, and Appendix B Coastal Policy Analysis for additional detail on coastal Environmentally Sensitive Habitat Areas.

During construction, it is anticipated one side of the freeway will be worked on at a time (i.e., northbound or southbound) and at least one lane will remain open to traffic in each direction.

1.3.1 Drainage Culverts

Under the District 5 Culvert Inspection Program, inventory and assessment activities found that 30 culverts and drainages needed repair or replacement. All 30 culverts have varying levels of invert damage, shape loss, joint separation, and/or outlet scouring. The strategy for each culvert varies depending on each site condition.

Table 1.1 lists the drainage locations, current conditions, and proposed methods and strategies for rehabilitation (note: several locations were removed during project design, so location numbers are not consecutive). The term “node” in the table refers to a point along the respective culvert, typically at the entrance or exit, or at a bend in the culvert.

The culverts will be repaired and replaced via the cut and cover method, which is usually accomplished by digging a trench with an excavator. The trench width depends on the pipe diameter, and the depth and slope are determined by the engineer. In some cases, the repair work is not anticipated to have a significant impact on traffic flow because it will take place in the center median or beyond the outside shoulder. However, other locations propose cutting across State Route 1 lanes and will, therefore, require staged construction to ensure that at least one lane of traffic is always available. Other drainage improvements include strategies such as: stabilizing the channels and reconstructing ditches, placing new pipes or replacing existing pipes, culvert invert paving, and joint repair.

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Table 1.1 Culvert Locations and Strategy for Rehabilitation

Location Number	Post Mile	Location Description	Strategy
5	9.37	Culvert crosses northbound State Route 1 with drainage inlet at node 2 and headwall at node 1.	Replace 12-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Connect node 2 to existing drainage inlet. 2-foot cover.
8	12.08	Culvert crosses the southbound on-ramp at Park Avenue, node 6 drainage inlet in the southbound on-ramp outside edge of shoulder and node 5 drainage inlet in the side slope between ramp and State Route 1.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Traffic control will be required for closure of on-ramp during construction and utility conflict due to street/traffic signal at intersection. Minor bush removal will be needed at node 5. Nodes 6 and 5 will be connected to respective drainage inlets. 3-foot cover.
9	12.08	Culvert is along the Park Avenue, southbound off-ramp inside edge of shoulder.	Replace 24-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Potential utility conflict due to street/traffic signal at intersection. Minor bush and curb removal will be required. Nodes 10 and 9 will be connected to respective drainage inlets. 6-foot cover.
10	12.08	Culvert crosses the southbound off-ramp at Park Avenue.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Ramp closure and potential utility conflict due to street/traffic signal at intersection. Nodes 11 and 10 will be connected to respective drainage inlets. 2-foot cover.
11	12.08	Culvert crosses southbound lanes at the south end of Park Avenue undercrossing.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Caltrans Structures and Geotech will be involved due to proximity to an existing bridge. Removal/replacement of bridge guardrail may be required. Nodes 13 and 12 will be connected to respective drainage inlets. 2-foot cover.
12	12.08	Culvert along the Park Avenue northbound off-ramp.	Replace 24-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Caltrans Geotech will be involved due to deep shoring. Potential utility conflict due to street/traffic signal at intersection. Minor bush and curb removal will be required. Nodes 15 and 3 will be connected to respective drainage inlets. 12-foot cover.
14	13.59	Culvert connects to drain inlet on the State Route 1 southbound edge of shoulder, crosses 41st Avenue southbound on-ramp, connects to drain inlet to the right of the on-ramp.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Traffic control for ramp closure during construction and potential utility conflict due to proximity of manhole. Minor bush and curb removal may be required. Each node will be connected to existing drainage inlets. 3-foot cover.

Location Number	Post Mile	Location Description	Strategy
15	14.00	Culvert on the side of freeway connecting to drain inlet on the State Route 1 northbound edge of shoulder and connecting to drain inlet on the toe of slope.	Replace 18-inch corrugated steel pipe with 24-inch reinforced concrete pipe using the cut and cover method. Tree and shrub removal may be required. 2-foot cover.
16	14.77	Culvert crosses State Route 1 northbound lanes diagonally and the Soquel Drive northbound off-ramp. Connects to drain inlet in the median and to drain inlet northbound off-ramp outside edge of shoulder.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Temporary ramp closure will be required. Guardrail will need to removed and replaced. Node 3 is located near an existing freeway light, may require potholing to locate utility. 3-foot cover.
19	16.02	Culvert crosses State Route 1 and the Morrissey Boulevard southbound off-ramp connecting to drain inlet at outside edge of shoulder of the Morrissey Boulevard southbound off-ramp near a freeway light and flared end section toe of slope of northbound State Route 1.	Replace 30-inch corrugated steel pipe with 30-inch reinforced concrete pipe using the cut and cover method. Node 3 may require potholing to locate conduits. Temporary ramp closure will be required. Due to cut and cover method, concrete median and shoulder guardrail will be removed and replaced. Node 4 flared end section will be replaced. 2-foot cover.
20	17.18	Culvert crosses southbound off-ramp at State Route 17. Nodes 1 and 2 connect to a concrete-lined channel.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Node 1 is close to an electrical panel/light pole, and utility potholing is needed. The culvert will connect to an existing concrete channel. Minor tree removal will be needed at this location. 4-foot cover.
21	17.18	Culvert connects to drain inlet on southbound off-ramp edge of shoulder from the open concrete channel.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. A portion of existing guardrail will be removed and replaced. Electrical pull box near node 3 will require potholing to locate it. Node 2 flows out into a concrete ditch, may require minor concrete work to cement concrete channel. Minor tree/shrub removal anticipated. 5-foot cover.
22	17.62	Culvert connects to a drain inlet on the northbound edge of shoulder of State Route 1 from the channel.	Replace 12-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Culvert is easily accessible via the side embankment and the shoulder of highway. 8-foot cover.
23	17.62	Culvert crosses southbound lanes connecting to a drain inlet on the edge of shoulder to a drain inlet in center median. Culvert located south	Replace 12-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. A portion of the cement concrete center median island where drainage inlet (node 4) will be removed and replaced. Typical temporary traffic control will be required, including at the intersection. 3-foot cover.

Location Number	Post Mile	Location Description	Strategy
		of the intersection with River Street intersection.	
24	17.71	Culvert runs along the center of the median, connecting to drain inlet near the stopping lanes, about 28 feet away from railroad tracks, to a manhole in the stamped concrete center median.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. A portion of the stamped concrete median island will be removed and replaced. Potholing will be required to avoid railroad utilities. Flagging for railroad along with temporary traffic control will be required. 3-foot cover.
28	18.71	Culvert connects to two drain inlets crossing State Route 1 south of the Otis Street intersection. Near residential neighborhood and commercial properties.	Replace 18-inch high-density polyethylene pipe with 24-inch reinforced concrete pipe using the cut and cover method. Curb, gutter, and sidewalk areas will be removed and replaced. Potholing will be required for electrical pedestal and streetlight located close to culvert to ensure no utility conflicts. Traffic control will be required and will consider residents, customers, and foot traffic. 3-foot cover.
29	19.35	Culvert crosses 10 feet of southbound State Route 1 mainly parking area, connecting to drain inlet and a manhole.	Replace 18-inch high-density polyethylene pipe with 24-inch reinforced concrete pipe using the cut and cover method. Replace some areas at curb, gutter, and sidewalk. Storm drain manhole and streetlight located close to culvert; potholing will be required to ensure no utility conflicts. Traffic control to consider customers and foot traffic. 2.5-foot cover.
30	19.35	Culvert crosses State Route 1 at the intersection with Miramar Drive from a manhole at the northeast corner to a drain inlet at the southwest corner.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Replace some curb, gutter, and sidewalk. Culvert next to commercial property. Electric pedestal northeast corner, fire-hydrant on southwest corner, manholes, and traffic light located close to culverts nodes, will require potholing to ensure no utility conflicts. 2-foot cover.
31	20.41	Culvert crosses State Route 1 at intersection with Shaffer Road connecting to two drain inlets.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Temporary traffic control with flagger will be required. 2-foot cover.
32	21.52	Culvert connects to drain inlet at the edge if shoulder of northbound State Route 1 to the toe of slope with no end treatment.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. A portion of metal beam guardrails on both shoulders will be removed and replaced due to the cut and fill method of construction. 3-foot cover.
33	21.78	Culvert crosses State Route 1 south of Coast Road from a headwall to the ditch.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. A portion of metal beam guardrails on right shoulder will be removed and replaced. Node 6 is connected to a concrete ditch; a portion may be replaced. Temporary traffic control with flagger will be required. 2.5-foot cover.

Location Number	Post Mile	Location Description	Strategy
34	21.78	Culvert crosses Coast Road at the stop sign and intersection of Coast Road with State Route 1 connecting with a drain inlet and a manhole.	Replace 18-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Streetlights and overhead lines in the vicinity present a potential utility conflict. 1.5-foot cover.
35	23.45	Culvert crosses State Route 1 and both headwalls located at the toe of slope.	Replace 30-inch corrugated steel pipe with 30-inch reinforced concrete pipe using the cut and cover method. A portion of the metal beam guardrails on both shoulders will be removed and replaced. Overhead lines in the vicinity present a potential utility conflict due to clearance of construction equipment. 2-foot cover.
36	24.16	Culvert connects to drain inlet at the northbound edge of shoulder of State Route 1 from no end treatment at the toe of slope.	Replace 15-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Typical temporary one-lane traffic control will be needed. 3-foot cover.
37	24.90	Culvert connects to drain inlet at the northbound edge of shoulder of State Route 1 from no end treatment at the toe of slope.	Replace 24-inch reinforced concrete pipe with 24-inch reinforced concrete pipe using the cut and cover method. Minor tree/bush removal will be required. Temporary traffic control with flagger will be required. 10-foot cover.
38	24.90	Culvert crosses State Route 1, connecting to drain inlet at the northbound edge of shoulder to a headwall at southbound toe of slope.	Replace 18-inch corrugated steel pipe with 24-inch reinforced concrete pipe using the cut and cover method. Node 3 is close to railroad tracks but has more than a 25-foot clearance. Flaggers will be required for train and vehicular traffic. Minor brush/tree removal will be required. 3.5-foot cover.
39	25.16	Culvert crosses State Route 1 connected by two headwalls at the toe of slope.	Replace 36-inch reinforced concrete pipe with 36-inch reinforced concrete pipe with cut and cover method if joint cannot be repaired. Culvert nodes will have to be accessed using Coast Road and Black Ranch Road. Temporary construction easement may be necessary for construction. Some tree/bush removal will be required along with Caltrans Hydraulics involvement. 23-foot cover.
40	25.73	Culvert connects a drain inlet at the edge of shoulder on Laguna Road to a headwall at the toe of slope.	Replace 24-inch corrugated steel pipe with 24-inch reinforced concrete pipe using the cut and cover method. Culvert not easily accessible and on side street, will use Laguna Road to access nodes. Metal beam guardrail will be removed and replaced. Typical temporary traffic control will be required. 3-foot cover.
41	25.73	Culvert crosses Laguna Road connecting to two drain inlets at the edge of shoulder.	Replace 18-inch corrugated steel pipe with 24-inch reinforced concrete pipe using the cut and cover method. Both drain inlets are located next to embankments. 3-foot cover.
42	25.93	Culvert located along the southbound State Route 1 behind the metal beam guardrail.	Replace 18-inch corrugated steel pipe with 24-inch reinforced concrete pipe using the cut and cover method. A portion of existing guardrail will be removed and replaced. 3-foot cover.

1.3.2 Roadside Worker Safety Improvements

Improvements to roadside worker safety features include shoulder widening and beyond-the-gore paving at 47 locations within the project limits. Extended paving of gore areas (triangular shaped areas of land between the highway and the on- and off-ramps) would provide maximum safety considerations for highway workers as it reduces recurring maintenance activities and minimizes worker exposure to traffic because crews are able to park their maintenance vehicles in paved areas. Also, less vegetation maintenance would be needed in paved areas.

Roadway signs at gore paving areas would be installed using a post sleeve so that signs can be quickly replaced in the field. Shoulders and gore locations identified in the project area are in poor condition or are not paved. Gore paving is recommended in the Highway Design Manual, Caltrans maintenance manuals, and Caltrans standard plans to provide long-lasting features that require less maintenance and safer access to perform both routine and emergency maintenance work.

The gore paving locations are listed in Table 1.2.

Table 1.2 Gore Paving Locations

Location Number	Post Mile	Location
1	8.6	Freedom Boulevard southbound off-ramp
2	9.03	Rio Del Mar Boulevard northbound off-ramp
3	9.03	Rio Del Mar Boulevard southbound on-ramp
4	9.22	Rio Del Mar Boulevard northbound on-ramp
5	9.45	Rio Del Mar Boulevard southbound off-ramp
6	10.41	State Park Drive northbound off-ramp
7	10.41	State Park Drive southbound on-ramp
8	10.47	State Park Drive northbound on-ramp
9	10.55	State Park Drive southbound on-ramp
10	10.62	State Park Drive northbound on-ramp
11	10.67	State Park Drive southbound off-ramp
12	11.98	Park Avenue northbound off-ramp
13	12.03	Park Avenue southbound on-ramp
14	12.24	Park Avenue northbound on-ramp
15	12.25	Park Avenue southbound off-ramp

Location Number	Post Mile	Location
16	13.23	Bay Avenue northbound off-ramp
17	13.27	Bay Avenue southbound on-ramp
18	13.38	Bay Avenue northbound on-ramp
19	13.39	Bay Avenue southbound off-ramp
20	13.52	41st Avenue northbound off-ramp
21	13.56	41st Avenue southbound on-ramp
22	13.59	41st Avenue northbound on-/off-ramp
23	13.6	41st Avenue northbound on-ramp
24	13.61	41st Avenue southbound on-ramp
25	13.66	41st Avenue southbound on-/off-ramp
26	13.71	41st Avenue northbound on-ramp
27	13.79	41st Avenue southbound off-ramp
28	14.74	Soquel Drive northbound off-ramp
29	14.75	Soquel Drive northbound off-ramp
30	14.77	Soquel Drive northbound on-ramp
31	14.83	Soquel Drive southbound on-ramp
32	14.83	Soquel Drive southbound on-/off-ramp
33	14.85	Soquel Drive southbound off-ramp
34	14.94	Soquel Drive northbound on-ramp
35	15.66	Morrissey Boulevard northbound off-ramp
36	15.74	Morrissey Boulevard northbound on-/off-ramp
37	15.8	Morrissey Boulevard southbound on-ramp
38	15.83	Morrissey Boulevard northbound on-ramp
39	15.9	Morrissey Boulevard southbound on-ramp
40	15.9	Morrissey Boulevard southbound on-/off-ramp
41	15.95	Morrissey Boulevard southbound off-ramp
42	17.1	State Route 17 northbound on-ramp from southbound State Route 1
43	17.15	State Route 1 southbound off-ramp to northbound State Route 17
44	17.15	State Route 1 northbound off-ramp to Ocean Street
45	17.16	State Route 1 southbound on-ramp from Plymouth Street
46	17.28	State Route 1 northbound on-ramp from Ocean Street
47	17.34	State Route 1 southbound off-ramp to Ocean Street

1.3.3 Lighting Improvements

Numerous light fixtures illuminate roadways, interchanges, and on- and off-ramps within the project limits. The project would make 32 lighting improvements at several interchanges along State Route 1 and south of the San Lorenzo River bridge (see Table 1.3). The changes would vary depending on each site condition and may include demolition or replacement of fixtures and/or foundations, and related excavation for new foundations, service cabinets and utility trenching. Associated conduits would also be replaced, which would result in rewiring the lighting system at each location.

Table 1.3 Lighting Rehabilitation Locations

Post Mile	Quantity	Location
8.35	18	Freedom Boulevard Interchange
10.53	2	State Park Drive Interchange
13.62	3	41st Avenue Interchange
15.82	6	Morrissey Boulevard Interchange
17.38	3	South of San Lorenzo River Bridge

1.3.4 Transportation Management System Improvements

Transportation Management Systems are implemented by Caltrans to monitor, manage, and improve the flow of vehicle traffic, and improve safety. Technologies such as traffic monitoring stations, ramp meters, closed-circuit television cameras, changeable message signs, microwave vehicle detection systems, and count stations are used to collect and send traffic data to transportation management centers. Locations for proposed Transportation Management System improvements are shown in Table 1.4.

Table 1.4 Proposed Transportation Management System Improvements

Post Mile	Replaced Element	Location
8.35	Install Census Loops	Freedom Boulevard
9.01	Install Census Loops	Rio Del Mar Boulevard
11.91	Install Census Loops	Park Avenue
13.53	Install Census Loops	41st Avenue
17.29	Install Census Loops	West of Ocean Street
17.41	Install Census Loops	West of Ocean Street
19.59	Install Count Station	East of King Street

A total of 12 new traffic census stations at the on- and off-ramps of State Route 1 are proposed. This involves one count station and 11 census loops in the on- and off-ramps at six intersections along State Route 1. The count station work would install a new telephone demarcation cabinet and provide commercial power; the census loop work would install a vehicle detector sensor, conduit, and pull boxes.

1.4 Project Alternatives

Two alternatives are being considered: the build alternative, and the no-build alternative. The build alternative is described in Section 1.3 above.

Under the no-build alternative, no improvements would be made to the culverts, lighting elements, or Transportation Management Systems elements, and no gore paving would be done. The no-build alternative would not meet the project's purpose and need.

Within the project limits, culverts are severely corroded and perforated; at some locations, the shape of the culverts are deformed, with damaged inverts. If culverts are allowed to continue to deteriorate, roadway failure is possible. Without replacement of the Transportation Management System elements, information collected from the project location might be unreliable or incomplete. Without replacement of the proposed lighting, the existing facilities will continue to deteriorate and would not function as intended.

1.5 Standard Measures and Best Management Practices

This project contains several standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. The contractor will be required to adhere to standard measures and best management practices used on all Caltrans projects during construction. Some of these include, but are not limited to the following:

1. The project would include a Transportation Management Plan that would reduce delays and related short-term increases in greenhouse gas emissions from disruptions in traffic flow during construction.

2. Caltrans Standard Specifications Section 14-9, Air Quality, a part of all construction contracts, requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality. Requirements that reduce vehicle emissions, such as limits on idling time, may help reduce greenhouse gas emissions.

3. 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 will comply with all the California Air Resources Board 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 greenhouse gas emissions.
4. Caltrans Standard Specifications Section 14-7.03 provides procedures to follow if unanticipated paleontological resources are discovered at the project site.
5. Caltrans Standard Specifications Section 14-8.02 requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 decibels (dBA) at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. The contractor shall consult the District Noise Specialist if complaints are received during the construction process.
6. During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of at the end of each work week. Following construction, all trash and debris shall be removed from work areas.
7. Construction equipment will be free of excessive dirt that may contain weed seed before entering the construction site. If necessary, wash stations either onsite or offsite will be established for construction equipment under guidance of Caltrans to minimize the spread of invasive plants and/or seed within the construction area.
8. Water quality-related Best Management Practices include job site management and preparation of a water pollution control plan.
9. Temporary Best Management Practices may include hydraulic mulch, check dams, drainage inlet protection, fiber rolls, concrete washout, and Environmentally Sensitive Area fencing.
10. All project-related hazardous materials spills within the project site will be cleaned up immediately. Readily accessible spill prevention and cleanup materials will be kept by the contractor onsite, at all times during construction.
11. All herbicides, fuels, lubricants, and equipment will be stored, poured, or refilled at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat.

Prior to the onset of work, Caltrans will ensure that a plan is in place for a prompt and effective response to accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

12. Implementation of Caltrans Standard Specifications 14-11.08 and 7-1.02k(6)(j)(iii) for regulated material containing Aerially Deposited Lead.

13. Implementation of Caltrans Standard Specification 84-9.03B for traffic stripe removal containing lead and/or Caltrans Standard Special Provision 36-4 for work involving resident from grinding and cold-planing that contains lead from paint and thermoplastic.

14. Preparation of a Lead Compliance Plan in accordance with Caltrans Standard Specification 7-1.02k(6)(j)(ii).

15. Implementation of Caltrans Standard Special Provision 14-11.14, which requires Caltrans assess the handling and disposal of potential wood waste generated during the project.

1.6 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, will be prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by the California Environmental Quality Act, this document may contain references to federal laws and/or regulations (the California Environmental Quality Act, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

1.7 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Table 1.5 Required Permits for Project

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service	Formal Section 7 Consultation and a Biological Opinion for the California red-legged frog	To be obtained before construction
U.S. Army Corps of Engineers	Section 404 Nationwide Permit for impacts to jurisdictional waters	To be obtained before construction
County of Santa Cruz	Coastal Development Permit	To be obtained before construction
City of Santa Cruz	Coastal Development Permit	To be obtained before construction
City of Capitola	Coastal Development Permit	To be obtained before construction
California Department of Fish and Wildlife	Section 1602 Streambed Alteration Agreement	To be obtained before construction
Central Coast Regional Water Quality Control Board	Section 401 Water Quality Certification for impacts to "Waters of the State and the U.S."	To be obtained before construction

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Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A "No Impact" answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below.

"No Impact" determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report, and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Visual Impact Assessment dated January 2022, the following significance determinations have been made:

Except as provided in Public Resources Code Section 21099:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	**No Impact**
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Aesthetics
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	**Less Than Significant Impact**
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	**No Impact**

Affected Environment

The project spans about 18 miles along State Route 1 and includes rural and suburban settings. The existing visual character of the project area comes mostly from its generally well-vegetated roadsides, agricultural character, and undulating topography. Distant views of hillsides are found to the north, with long-range vistas to the west, and coastal views to the south. More developed regions within the project area are characterized by a mix of suburban and built-up environment alternating with vegetated creeks that cross the highway corridor. Additional highway plantings are within the interchanges, which continue the landscape character of the corridor.

Environmental Consequences

Proposed project elements such as structures related to culvert improvements, Transportation Management System elements, and additional paving would be readily visible from the roadway. By themselves, these types of elements are not uncommon and would not be seen as unexpected visual elements in a highway setting. The addition of all these elements together would create a more utilitarian appearance and add a degree of visual clutter to the setting. Much of the area in the vicinity of the culverts is vegetated, either with native shrubs and/or trees. As a result, the construction of access roads and staging areas would cause the removal of vegetation in the immediate area. As a result, these visual changes would cause a minor reduction of rural character and visual quality to the immediate project area.

Although potential visual changes would occur as a result of the project, the same type of elements proposed are seen elsewhere along the highway and are not by themselves inconsistent with the rural roadway character of the region or throughout the state. As a result, the proposed drainage structures, paved surfaces, Transportation Management System elements, and other

roadside elements would be subordinate to the overall experience of traveling along the highway.

During and following construction, the most noticeable aspect of the project would likely be the potential staging areas, and a reduction in trees and native vegetation associated with the drainage construction access. Although some of these actions may be considered temporary, any associated tree and vegetation removal and/or severe pruning may be noticed after construction, resulting in a loss of visual quality. Although impacts are less than significant, the minimization measures listed below would be implemented to further reduce potential visual impacts.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of the following minimization measures, the project would be consistent with the aesthetic and visual resource protection goals along State Route 1, and potential visual impacts would be reduced:

AES-1: Preserve as much existing vegetation as possible. Prescriptive clearing and grubbing and grading techniques that save the most existing vegetation possible should be used.

AES-2: Revegetate all disturbed areas with native plant species appropriate to each specific work location.

AES-3: Replacement planting shall include aesthetic considerations as well as the inherent biological goals. Revegetation shall include native trees and plants as determined by the Caltrans Biologist and Caltrans District 5 Landscape Architecture.

AES-4: Paving beyond the gore shall include aesthetic treatment to be determined and approved by District 5 Landscape Architecture.

AES-5: Metal roadside elements such as guardrail, transitions, end treatments, and cable safety railing should be stained or darkened to be visually compatible with selected rural settings, as determined and approved by District 5 Landscape Architecture.

AES-6: Transportation Management System elements aesthetic treatment, such as painting, to be determined and approved by District 5 Landscape Architecture.

AES-7: Following construction, re-grade and re-contour all new construction staging areas and other temporary uses as necessary to match the surrounding pre-project topography.

2.1.2 Agriculture and Forest Resources

Land uses within the areas of potential impact for the project are designated as mostly urban and built-up land within Santa Cruz, Capitola, and Aptos. North of Santa Cruz, the land use is more rural, and the project locations have areas of potential impact adjacent to farmland designated as an Agricultural Resource Area by Santa Cruz County. However, access would be temporary for construction and would not prevent the continuation of existing farmland activities in the area. The project would not require any acquisition of property, and no farmland (either directly or indirectly) would be converted to nonagricultural use. No forest land or timberland is identified in the project vicinity that would be converted to non-forest use. Considering this information, the following significance determinations have been made:

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

2.1.3 Air Quality

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

Considering the information in the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated September 2021, the following significance determinations have been made:

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

Affected Environment

The project is in the North Central Coast Air Basin, which includes the counties of Monterey, San Benito, and Santa Cruz. Air quality in the basin is regulated by the Monterey Bay Air Resources District. The basin is in attainment for all National Ambient Air Quality Standards and non-attainment transitional for California Ambient Air Quality Standards for ozone. The basin is in non-attainment for airborne particulate matter less than 10 microns in diameter.

Environmental Consequences

The project will not increase the capacity of the highway; therefore, there will be no change in long-term air quality as a result of the project.

Short-term temporary increases in air emissions and fugitive dust are expected during construction activities. It is expected that there will be minor earthwork, such as excavation, soil transport, and fill at the individual locations for culvert replacement and/or repair, and installation of census station and lighting infrastructure within the project limits. Residences, schools, and health care facilities in the vicinity of the project areas could be considered sensitive receptors to increased emissions and dust generated

during project construction. These increases would be minimized through implementation of standard construction practices and procedures for dust and emission minimization, as provided in Section 1.5, Standard Measures and Best Management Practices. It is expected that project emissions from construction vehicles and equipment and particulate matter (dust) would be well within the Monterey Bay Air Resources District's standards. Project construction activities are not expected to generate a substantial odor.

Construction emissions were calculated for the project using the Caltrans Construction Emissions Tool with settings for a stormwater and drainage project of a 250-day construction period. Based on preliminary design information, the project construction activities are estimated to generate an average of 337 tons per year of carbon dioxide or 384 tons of carbon dioxide equivalent during the construction period.

The project would incorporate appropriate standard engineering design and Best Management Practices for stormwater protection and control during construction activities. In accordance with Caltrans' 2018 Standard Specifications, the contractor will be responsible for compliance with all local air pollution control rules, regulations, ordinances, and statutes for work conducted under the construction contract. These requirements include those provided in Government Code Section 11017 (Public Contract Code Section 10231). In addition, the contractor will be required to prepare a Water Pollution Control Plan, which includes measures to minimize dust generation from grading, stockpiling, excavating, and other anticipated construction activities.

Avoidance, Minimization, and/or Mitigation Measures

No additional measures are proposed.

2.1.4 Biological Resources

Considering the information in the Natural Environment Study dated January 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
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, U.S. Fish and Wildlife Service, or National Oceanic Atmospheric Administration Fisheries?	**Less Than Significant Impact With Mitigation Incorporated**

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

Affected Environment

Within the project limits, the existing roadway is a 4- to 6-lane freeway between the unincorporated community of Aptos and the City of Santa Cruz. It then transitions to a 4-lane conventional highway within the City of Santa Cruz, with 34 at-grade intersections. Within the City of Santa Cruz, pedestrian facilities begin from the intersection of River Street and State Route 1 and continue to the intersection of Swift Street and State Route 1. The project lies within the Coastal Zone from the beginning of the project limits in Aptos at post mile 8.24 through 13.2 and then enters the Coastal Zone again from post mile 19.36 at Swift Street through the end of the project limits at post mile 25.93 just south of Davenport.

To determine potential biological impacts of the project, a desktop review and field surveys were conducted within the Biological Study Area. The Biological Study Area is the area studied for biological resources and includes the area that may be directly, indirectly, temporarily, or permanently impacted by

construction and construction-related activities. Because the project has multiple locations spanning about 18 miles, the Biological Study Area is composed of multiple separate polygons around the various project locations.

The Biological Study Area is situated along the coastal plain of Santa Cruz County. Elevations within the survey area range from 30 to 100 feet above sea level. The surrounding area is variable along the length of the project, with mostly rural agricultural lands in areas to the northwest of the City of Santa Cruz and mostly urban lands from the City of Santa Cruz to the southern end of the project in Aptos.

Scattered areas of natural communities are present with the Biological Study Area, including willow riparian forest, coast live oak woodland, mixed conifer woodland, and eucalyptus woodland in addition to developed/landscaped and ruderal/disturbed vegetation. Residential and commercial buildings and associated landscaping within or immediately adjacent to the Biological Study Area occur within much of the project limits along State Route 1. The Biological Study Area includes portions of streams, wetlands, and drainages that eventually flow into the Pacific Ocean. No tidally influenced or brackish (typically where freshwater and seawater mix) regions are present.

Queries and official species lists were used to develop a list of special-status species and sensitive natural communities that have the potential to occur within the Biological Study Area. Sensitive species and habitats with potential to be present in the project impact area were further researched and prioritized for identification during field surveys.

Field surveys were conducted between April 2020 and April 2021. Floristic surveys were conducted within a range of months when target special-status species were flowering and identifiable following the guidelines of the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. General reconnaissance-level wildlife surveys coincided with the botanical, wildlife species, and habitat surveys and were documented.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Jurisdictional wetlands, other waters, and riparian habitat are regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and California Coastal Commission. Wetlands function to improve water quality, detain storm water runoff, recharge groundwater, and provide wildlife habitat. Wetlands are typically defined with a three-parameter approach, meaning the vegetation, soil, and hydrology parameters must all be met to be defined as a wetland. Riparian habitat along streams provides wildlife habitat, insects for food for aquatic species, and shade and cover for aquatic species, which helps regulate stream temperature.

Permanent impacts to jurisdictional features would occur from installation of rock slope protection at the outlet of the culverts. Temporary impacts to jurisdictional features would occur due to temporary access, staging areas, repair or replacement of culverts, and temporary stream diversion/dewatering, if needed.

Jurisdictional areas were determined to be present within the Biological Study Area at the following project locations: post mile 12.08 (stream), post mile 17.18 (stream), post mile 17.62 (riparian and stream), post mile 21.52 (stream and coastal wetland), post mile 21.78 (stream), post mile 23.45 (stream), post mile 24.16 (stream), post mile 24.90 (riparian, stream, and wetland), post mile 25.16 (riparian and stream), and post mile 25.73 (stream).

Designated Critical Habitat

The physical and biological features for marbled murrelet critical habitat include "(1) individual trees with potential nesting platforms, and (2) forested areas within 0.5 mile (0.8 kilometer) of individual trees with potential nesting platforms, and with a canopy height of at least one-half the site-potential tree height. This includes all such forest, regardless of contiguity." Although two project locations occur within federally designated critical habitat for the marbled murrelet (culverts at post miles 21.52 and 23.45), the habitat within these locations was determined to not support physical and biological features for the marbled murrelet and were not studied further.

The Biological Study Area overlaps federally designated critical habitat for the California red-legged frog at the following 9 culvert locations: post miles 20.41, 21.52, 21.78, 23.45, 24.16, 24.90, 25.16, 25.73, and 25.93. The physical and biological features that were assessed to occur and determined to be supported within the Biological Study Area for the California red-legged frog are as follows: California red-legged frog PBF 3 and PBF 4—upland and dispersal habitat. Upland habitat includes areas adjacent to or surrounding breeding and non-breeding aquatic and riparian habitat up to 1 mile. Upland habitat provides shelter, forage, and predator avoidance. Dispersal habitat is considered accessible upland or riparian habitat within and between occupied or previously occupied sites located within 1 mile of each other and that support movement between sites.

California red-legged frogs were not observed during general wildlife surveys; however, these locations have the potential to support upland and dispersal habitat and some suitable aquatic breeding. Therefore, the presence of the species is inferred at these locations.

The Biological Study Area does not overlap with federally designated critical habitat for any plant taxa.

Special-Status Plant Species

Although potential habitat occurs within the Biological Study Area for several special-status plant taxa, botanical surveys were conducted in April 2020 through April 2021 and none of these taxa were found and none are anticipated to occur. It was determined that there will be no effect on any federally or state listed plants or their critical habitat.

Invasive Plant Species

Forty-seven invasive plant species occur within the Biological Study Area. Seven of these species are rated with a "high" invasiveness rating, 17 are rated as "moderate," and 23 are rated as "limited." These species are scattered throughout the Biological Study Area and are most common in ruderal/disturbed areas along the edges of State Route 1. Construction-related ground disturbance could spread or introduce invasive species within the Biological Study Area.

Special-Status Animal Species

Several special-status animal species have the potential to occur within the Biological Study Area, as noted in Table 2.1, along with the listing status and the presence of and/or recommendations for the species within the Biological Study Area.

Table 2.1 Special-Status Animal Species Potentially Present in the Biological Study Area

Scientific Name	Common Name	Listing Status	Presence and/or Recommendations	Determination
Amphibians *Rana draytonii*	California red-legged frog	Federally Threatened, Designated Critical Habitat, California Species of Special Concern	• Low-quality aquatic breeding and upland habitat occurs within the Biological Study Area. • Not observed during surveys. • Several California Natural Diversity Database records within and adjacent to the Biological Study Area.	Federal Endangered Species Act Section 7 Effects Determination: May affect, and is likely to adversely affect, California red-legged frog; May affect, and is likely to adversely affect, California red-legged frog federally designated critical habitat.
Reptiles *Anniella pulchra*	northern California legless lizard	California Species of Special Concern	• Suitable habitat present. • No California Natural Diversity Database occurrences within or adjacent to the Biological Study Area locations. • No further studies recommended. • **Avoidance and minimization measures are recommended.**	Not Applicable
Reptiles *Thamnophis sirtalis tetrataenia*	San Francisco garter snake	Federally Endangered, State Endangered, State Fully Protected	• Suitable habitat present. • The project limits do not occur within the range; the northern limit (post mile 26.0) of the project is south of Waddell Creek. No California Natural Diversity Database occurrences within or adjacent to the Biological Study Area locations. • No further studies recommended.	Federal Endangered Species Act Section 7 Effects Determination: No effect to the species. California Endangered Species Act determination: No take.
Reptiles *Emys marmorata*	western pond turtle	California Species of Special Concern	• Suitable habitat present. • No California Natural Diversity Database occurrences within or adjacent to the Biological Study Area locations. • No further studies recommended. • **Avoidance and minimization measures are recommended.**	Not Applicable

Scientific Name	Common Name	Listing Status	Presence and/or Recommendations	Determination
Birds *Accipiter cooperii*	Cooper's hawk	Protected by Federal Migratory Bird Treaty Act, California Department of Fish and Wildlife Watch List Species	• Marginally suitable habitat exists within the Biological Study Area. • No California Natural Diversity Database occurrences exist within the Biological Study Area. • No species observed during surveys. • **Avoidance and minimization measures recommended for all protected species under the Migratory Bird Treaty Act.**	Not Applicable
Birds *Elanus leucurus*	white-tailed kite	Protected by Federal Migratory Bird Treaty Act, State Fully Protected	• Suitable nesting habitat exists within the Biological Study Area. • Species not observed during surveys. • No California Natural Diversity Database occurrences exist within the Biological Study Area. • No nesting bird species observed during surveys. • No further studies recommended.	California Endangered Species Act determination: No take.
Birds Class *Aves*	other nesting birds	Protected by Federal Migratory Bird Treaty Act, Protected by California Department of Fish and Game Code Section 3503	• Suitable nesting habitat exists within the Biological Study Area. • No nesting bird species observed during surveys. • **Avoidance and minimization measures recommended.**	Not Applicable

Scientific Name	Common Name	Listing Status	Presence and/or Recommendations	Determination
Invertebrates *Danaus plexippus pop. 1*	monarch - California overwintering population	Candidate for Federal Listing, Included in California Natural Diversity Database Special Animals List	• No identified overwintering roosting sites occur within the Biological Study Area locations. • Several California Natural Diversity Database occurrences exist within or near the Biological Study Area locations: near Bright State Beach (Occurrence 61), and in 1984 several occurrences near Long Marine Lab, but noted as not likely to be an overwintering site (Occurrences 102, 421, 422, 423). • Species not observed during surveys. • **Avoidance and minimization measures recommended.** • No additional studies recommended.	Federal Endangered Species Act Section 7 effects determination: No effect to species.
Invertebrates *Bombus caliginosus*	obscure bumble bee	Included in California Natural Diversity Database Special Animals List	• Marginal suitable food plant habitat present. • Most recent California Natural Diversity Database record is from 1950 near the Biological Study Area. • Not observed during surveys. • No further studies recommended.	Not Applicable
Mammals *Lasiurus cinereus*	hoary bat	Included in California Natural Diversity Database Special Animals List	• Marginally suitable habitat is present in woodland habitats. • No California Natural Diversity Database records in or near the Biological Study Area. • Not observed during general surveys. • **Avoidance and minimization measures recommended.**	Not Applicable

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Environmental Consequences

Most of the Biological Study Area is dominated by ruderal (weedy) habitat that is subject to routine disturbance associated with highway maintenance and operations. Most project impacts would be limited to these ruderal roadside areas that are already highly disturbed. Permanent impacts are associated with addition of rock slope protection and flared end section at culvert outlets, new lighting and Transportation Management System elements and associated features. Replacement of existing features at the same location is not considered a permanent impact. Temporary impacts are associated with vegetation clearing, excavation, staging, and construction access.

Tree trimming or removal may be required for construction. Tree trimming or removal is currently identified at post miles 12.08, 14.00, 17.18, 24.90, and 25.16 where replacement culverts are proposed. Nine trees are expected to be removed to accommodate for the improvements.

The project will not affect any state listed species, and California Endangered Species Act coordination is not required.

There is no Essential Fish Habitat for federally managed species at the project location, and Essential Fish Habitat consultation with the National Marine Fisheries Service will not be required.

No impacts to wildlife connectivity are anticipated with this project. Measures will be implemented to avoid/minimize the spread of invasive species throughout the Biological Study Area. Environmentally Sensitive Area fencing would be installed throughout areas of the project to limit construction activities and protect natural communities of concern, individual trees, and sensitive species. Environmentally Sensitive Area fencing will be identified on the project plans. Prior to the start of construction activities, Environmentally Sensitive Areas will be delineated in the field and be approved by the Caltrans Environmental Division.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

Impacts to Jurisdictional areas regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and California Coastal Commission occur within the Biological Study Area and are summarized in Table 2.2. The estimated impacts to jurisdictional areas were calculated by overlaying the project area of potential impact with the preliminary jurisdictional determination. Permanent impacts to jurisdictional features would occur from installation of rock slope protection at the outlet of the culverts. Temporary impacts to jurisdictional features would occur due to temporary access, staging areas, repair or replacement of culverts, and temporary stream diversion/dewatering, if needed.

Approximately 117.6 square feet (0.003 acre) of waters of the U.S. and streambed may be permanently impacted, and 291.8 square feet (0.007 acre)

may be temporarily impacted. A total of 57.4 square feet (less than 0.001 acre) of jurisdictional riparian habitat may be permanently impacted, and 91.1 square feet (0.003 acre) may be temporarily impacted. Approximately 35.3 square feet (0.001 acre) of jurisdictional wetlands may be temporarily impacted; no permanent impacts to wetlands are anticipated.

Table 2.2. Estimated Impacts to All Jurisdictional Areas

Natural Community/ Jurisdictional Area	Permanent Impacts (Acre)	Permanent Impacts (Square Feet)	Temporary Impacts (Acre)	Temporary Impacts (Square Feet)
Stream/Other Waters	0.003	117.6	0.007	291.8
Riparian	Less than 0.001	57.4	0.003	91.1
Wetlands	0	0	Less than 0.001	35.3

Special-Status Animal Species

California Red-legged Frog and Designated Critical Habitat

Work that involves replacement or repair of culverts or other drainage improvements within California red-legged frog critical habitat has the potential to impact the California red-legged frog and its critical habitat, especially those areas that are associated with other waters/streams and wetlands.

Project impacts could occur at the following nine locations where drainage work is to occur where there is potential habitat for California red-legged frog: post miles 20.41, 21.52, 21.78, 23.45, 24.16, 24.90, 25.16, 25.73, and 25.93. The potential need to capture and relocate California red-legged frogs within these locations would subject these animals to stresses that could result in adverse effects. Injury or death could occur via accidental crushing by worker foot-traffic or construction equipment. Approximately 0.014 acre (588.5 square feet) of permanent impacts and 0.318 (13,848.4 square feet) of temporary impacts to California red-legged frog critical habitat could occur at these nine locations.

The Federal Endangered Species Act Section 7 effects determination is that the project may affect, and is likely to adversely affect, the California red-legged frog. The basis for this determination is that California red-legged frog presence has been inferred within the Biological Study Area, and there would be potential for take of the species during construction.

The Section 7 effects determination is that the project may affect, and is likely to adversely affect, federally designated critical habitat for the California red-legged frog. The basis for this determination is that the project occurs within critical habitat for drainage work to occur at nine culverts: post miles 20.41, 21.52, 21.78, 23.45, 24.16, 24.90, 25.16, 25.73, and 25.93.

Cooper's Hawk, White-tailed Kite, and Other Nesting Birds

No special-status bird species were found during surveys. There are no records of Cooper's hawk or white-tailed kite nesting in the Biological Study Area, and the project is not expected to impact these species. Common birds seen within the Biological Study Area include the following species: red-tailed hawk, raven, red-winged blackbird, house finch, turkey vulture, barn swallow, brewer's blackbird, and common crow. Potential nesting habitat occurs throughout shrubs and trees within the Biological Study Area.

Impacts to active nests belonging to migratory bird species could occur throughout the Biological Study Area from construction activities where suitable nesting substrate is present. Indirect impacts could also result from noise and disturbance associated with construction during the nesting season, which could alter nesting behaviors. Direct impacts to nesting birds could result if removal of vegetation occurs during the nesting season. These direct effects would result in the injury or death of nesting birds or harassment that could alter nesting behaviors. Implementation of pre-construction nesting surveys and buffer exclusion zones (if necessary) will reduce the potential for adverse effects to nesting birds.

Northern California Legless Lizard and Western Pond Turtle

The project has the potential to impact the northern legless lizard and western pond turtle if found burrowing or nesting in the area of potential impact. However, the chances are low that any of these special-status reptile species would occur within the area of potential impact due to poor habitat conditions, higher quality burrowing and nesting habitat outside of the Biological Study Area, and limited access between the higher quality habitat and the project work areas. The project is not expected to appreciably reduce the quality or amount of suitable habitat for any of these special-status reptiles.

Monarch Butterfly

Monarch butterflies occur primarily as migrating individuals in the vicinity of the Biological Study Area. Project activities are not anticipated to have significant impacts on migrating individuals. The project is expected to have no effect on monarch butterflies or overwintering roost sites.

Hoary Bat

No bat roosts were detected during surveys, and no impacts to roosting bats are anticipated. However, if bats are found roosting in trees that are to be trimmed during construction, direct impacts could include injury or death of bats. Indirect impacts could also result from noise and disturbance associated with construction, which could alter roosting behaviors.

Avoidance, Minimization, and/or Mitigation Measures

The measures listed below would reduce potential impacts to biological resources to below significance. Mitigation measures are labeled as such,

and the remaining measures are avoidance and/or minimization measures. The measures have been organized by the primary resource or species they are designed to protect.

Jurisdictional Wetlands, Other Waters, and Riparian Habitat

The following avoidance, minimization, and mitigation measures will be implemented to reduce the potential impacts to jurisdictional areas resulting from the project:

BIO-1: Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alternation Agreement from the California Department of Fish and Wildlife. All permit terms and conditions will be incorporated into construction plans and implemented.

BIO-2: Prior to any ground-disturbing activities, Environmentally Sensitive Area fencing shall be installed around jurisdictional features, and the dripline of trees to be protected within the project limits. Caltrans-defined environmentally sensitive areas shall be noted on design plans and delineated in the field prior to the start of construction activities.

BIO-3: Construction activities in jurisdictional waters and temporary stream diversion, if needed, shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at a seasonal minimum. Deviations from this work window will be made only with permission from the relevant regulatory agencies.

BIO-4: During construction, all project-related hazardous materials spills within the project site shall be cleaned up immediately. Readily accessible spill prevention and cleanup materials shall be kept by the contractor onsite at all times during construction.

BIO-5: During construction, erosion control measures shall be implemented. Fiber rolls and barriers shall be installed as needed between the project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.

BIO-6: During construction, the staging areas shall conform to best management practices. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor daily to ensure proper operation and avoid potential leaks or spills.

BIO-7: Stream contours shall be restored as close as possible to their original condition.

BIO-8: Temporary impacts to jurisdictional waters shall be restored at a 1-to-1 ratio (acreage). Compensatory mitigation shall be provided at a 3-to-1 ratio (acreage) for permanent impacts to jurisdictional waters. Replacement plantings shall include appropriate native tree and understory species. To ensure replacement planting success, monitoring and an appropriate plant establishment period will be required, which will include annual inspections, weeding, and replacement of unsuccessful plants, if needed. It is likely that a 1-year plant establishment period will be required.

BIO-9: Native trees shall be replanted at a minimum 10-to-1 replacement ratio within or adjacent to existing woodlands or riparian areas within the Caltrans right-of-way within the project area as part of the project's landscaping plans.

Invasive Species

The following avoidance and minimization measures are recommended:

BIO-10: During construction, Caltrans shall ensure that the spread or introduction of invasive plant species will be avoided to the maximum extent possible.

BIO-11: Only clean fill shall be imported. When practicable, invasive exotic plants in the project site will be removed and properly disposed. Any plant species rated as "high" on the Cal-IPC Invasive Plant Inventory that is removed from the construction site will be taken to a landfill to prevent the spread of invasive species. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project will be avoided.

BIO-12: Construction equipment shall be inspected to verify it is clean and weed-free by Caltrans before entering the construction site. If necessary, wash stations onsite will be established for construction equipment under the guidance of Caltrans to avoid/minimize the spread of invasive plants and/or seed within the construction area. If wash stations onsite are infeasible due to the site's space constraints, construction equipment will be cleaned offsite and then driven only on paved roads to the site.

California Red-Legged Frog

The following mitigation measures will be implemented to avoid and minimize potential adverse impacts to the California red-legged frog from the project (complies with the Caltrans Programmatic Biological Opinion with U.S. Fish and Wildlife Service):

BIO-13: Caltrans shall coordinate with the U.S. Fish and Wildlife Service to obtain Federal Endangered Species Act incidental take coverage under the Programmatic Biological Opinion with the U.S. Fish and Wildlife Service and

comply with the following measures from the Programmatic Biological Opinion:

- Only U.S. Fish and Wildlife Service-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.

- Ground disturbance shall not begin until written approval is received from the U.S. Fish and Wildlife Service that the biologist is qualified to conduct the work, unless the individual(s) has/have been approved previously and the U.S. Fish and Wildlife Service has not revoked that approval.

- A U.S. Fish and Wildlife Service-approved biologist shall survey the project area at locations with suitable California red-legged frog habitat no more than 48 hours before the onset of work activities. If found, the U.S. Fish and Wildlife Service-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable.

- Before any activities begin on a project, a U.S. Fish and Wildlife Service-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished.

- A U.S. Fish and Wildlife Service-approved biologist shall be present at the project locations with suitable California red-legged frog habitat until all California red-legged frogs have been removed, workers have been instructed, and initial disturbance of habitat has been completed. If work is stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and the U.S. Fish and Wildlife Service during review of the proposed action, the biologist shall notify the Resident Engineer immediately. When work is stopped, the U.S. Fish and Wildlife Service shall be notified as soon as possible.

- During project activities, all trash that may attract predators or scavengers shall be properly contained, removed from the work site, and disposed of at the end of each work week. Following construction, all trash and debris shall be removed from work areas.

- All refueling, maintenance and staging of equipment and vehicles shall occur at least 100 feet from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat, unless otherwise preapproved by the necessary agencies.

- Habitat contours shall be returned to a natural configuration at the end of the project activities. This measure shall be implemented in all areas disturbed by activities associated with the project at locations with suitable California red-legged frog habitat unless the U.S. Fish and Wildlife Service and Caltrans determine that it is not feasible, or modification of original contours would benefit the California red-legged frog.

- The number of access routes, size of staging areas, and the total area of activity shall be limited to the minimum necessary to achieve the project. Environmentally Sensitive Areas shall be established to confine access routes and construction areas to the minimum area necessary to complete construction and minimize the impact to California red-legged frog habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable.

- Caltrans shall attempt to schedule work for times of the year when impacts to the California red-legged frog would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May).

- To control sedimentation during and after project completion, Caltrans shall implement Best Management Practices outlined in any authorizations or permits issued under the authorities of the Clean Water Act received for the project.

- If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than 0.2 inch to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any diversions or barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate. Alteration of the streambed shall be minimized to the maximum extent possible; any imported material shall be removed from the streambed upon completion of the project.

- Unless approved by the U.S. Fish and Wildlife Service, water shall not be impounded in a manner that may attract California red-legged frogs.

- Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable.

- Caltrans shall not use herbicides as the primary method to control invasive, exotic plants.

- Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to the U.S. Fish and Wildlife Service, following the template provided with the Programmatic Biological Opinion.

Cooper's Hawk, White-tailed Kite, and Other Nesting Migratory Birds

The following avoidance and minimization will be implemented to minimize impacts to nesting migratory birds:

BIO-14: If feasible, removal of trees shall be scheduled to occur in the fall and winter (between September 2 and January 31), outside of the typical nesting season. If tree removal or other construction activities are proposed to occur within 100 feet of potential habitat during the nesting season (February 1 to September 1), a nesting bird survey shall be conducted by a qualified Caltrans biologist no more than 10 calendar days prior to construction. If an active nest is found, Caltrans shall implement an appropriate buffer based on the habits and needs of the species. The buffer area shall be implemented until a qualified biologist has determined that juveniles have fledged or nesting activity has otherwise ceased.

BIO-15: During construction, active bird nests must not be disturbed and eggs or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time.

Monarch Butterflies

Potential impacts to monarch butterfly will be avoided through the implementation of the following measures:

BIO-16: If feasible, eucalyptus tree removal or other disturbance of eucalyptus habitat shall be completed from November 1 to March 1 to avoid potential impacts to winter roosting monarch butterflies.

BIO-17: If construction activities are scheduled to impact suitable monarch butterfly overwintering habitat between November 1 and March 1, a qualified biologist shall conduct pre-construction surveys for overwintering monarch butterflies in appropriate habitat. Overwintering monarch butterfly surveys shall consist of a pre-construction survey prior to eucalyptus tree removal, with weekly surveys continuing thereafter until March 1. If no roosts are observed within the project site, then construction will be allowed to proceed. If active roosts are observed, tree removal activities shall be delayed and an appropriate setback for other construction-related activities shall be maintained until monarch butterflies have migrated from the site. All tree removal shall be monitored and documented by the biological monitor(s) regardless of time of year.

Northern Legless Lizard and Western Pond Turtle

Avoidance and minimization measures for the California red-legged frog will also minimize impacts to the northern legless lizard and western pond turtle. In addition:

BIO-18: If northern legless lizards or western pond turtles are detected in the project limits during construction, a qualified biologist or trained designee will move them out of harm's way.

Hoary Bat and Other Roosting Bats

The following avoidance and minimization measures are recommended for roosting bats:

BIO-19: Tree removal shall occur from September 1 to February 14, outside of the typical bat maternity roosting season, if possible, to avoid potential impacts to roosting bats. If tree removal or other construction activities are proposed to occur during the bat maternity roosting season (February 15 to August 31), a bat roost survey shall be conducted by a qualified biologist within 14 days prior to construction. The biologist conducting the pre-construction surveys shall identify the nature of the bat utilization (i.e., no roosting, night roost, day roost, maternity roost) and determine if passive bat exclusion will be necessary and feasible. If an active day roost is found, a qualified Caltrans biologist shall determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased or exclusionary methods have successfully evicted roosting bats. Active bat maternity roosts shall not be disturbed.

BIO-20: Readily visible exclusion zones shall be established in areas where roosts must be avoided using Environmentally Sensitive Area fencing. The size/radius of the exclusion zone shall be determined by a qualified Caltrans biologist.

2.1.5 Coastal Zone

Several elements of the project lie within the Coastal Zone, and therefore the project has the potential to affect resources protected by the Coastal Zone Management Act of 1972, the main federal law enacted to preserve and protect coastal resources. The Coastal Zone Management Act sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan can review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed the Coastal Zone Management Plan for the state and has enacted the California Coastal Act of 1976 to protect the state coastline. The policies established by the California Coastal Act are similar to

those for the Coastal Zone Management Act: they include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of Environmentally Sensitive Areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act.

Just as the federal Coastal Zone Management Act delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments to enact their own local coastal programs. The proposed project is subject to the County of Santa Cruz Local Coastal Program, the City of Santa Cruz Local Coastal Program, and the City of Capitola Local Coastal Program. Local coastal programs contain the ground rules for the development and protection of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

A Federal Consistency Certification would be needed as well. The Federal Consistency Certification process would be initiated before the final environmental document and would be completed to the maximum extent possible during the National Environmental Policy Act process.

Affected Environment

The project contains elements that fall within the Coastal Zone boundary and are under the jurisdiction of the original jurisdiction of the California Coastal Commission as well as the jurisdiction of the County of Santa Cruz, the City of Santa Cruz, and the City of Capitola Local Coastal Programs. Figure B-1 in Appendix B shows the jurisdictional boundary of each agency within the Coastal Zone and the project locations. The project locations from post miles 8.2 to 11.8 and post miles 20.6 to 26.2 are within the jurisdiction of the County of Santa Cruz, post miles 20.1 to 20.6 are within the jurisdiction of the City of Santa Cruz, and post miles 11.8 to 12.65 are within the jurisdiction of the City of Capitola.

The County of Santa Cruz Local Coastal Program was adopted with the County's General Plan in May 1994 and certified by the California Coastal Commission in December 1994. The City of Santa Cruz Local Coastal Program was adopted with the City's General Plan in October 1992 and has been amended several times since. The City of Capitola Local Coastal Program was certified by the California Coastal Commission in June 1981 and updated in October 2001 and January 2005.

An Environmentally Sensitive Habitat Area (also known by the acronym ESHA) is defined in the California Coastal Act Section 30107.5 as "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 which could be easily disturbed or degraded by human activities and developments."

Environmental Consequences

An analysis of the consistency of the project with policies of Chapter 3 of the California Coastal Act, the County of Santa Cruz Local Coastal Program, the City of Santa Cruz Local Coastal Program, and the City of Capitola Local Coastal Program that pertain to this project is summarized in Table B-1 in Appendix B.

Jurisdictional features that are within the Coastal Zone are considered Environmentally Sensitive Habitat Areas. All impacted jurisdictional features are within the Coastal Zone in the County of Santa Cruz at seven project locations, including these post miles: 21.52 (stream and coastal wetland), 21.78 (stream), 23.45 (stream), 24.16 (stream), 24.90 (riparian, stream, and wetland), 25.16 (riparian and stream), and 25.73 (stream). The project will have permanent and temporary impacts on designated Environmentally Sensitive Habitat Areas.

Wetlands in the Coastal Zone are required to meet only one parameter of the typical three-parameter approach—either hydrology, soils, or vegetation—to be considered a coastal wetland. One location at post mile 21.52 meets this definition and is therefore designated as a coastal wetland, and impacts are listed separately in Table 2.3. Approximately 34.1 square feet of permanent impacts and approximately 1.1 square feet of temporary impacts are anticipated at this coastal wetland Environmentally Sensitive Habitat Area.

Table 2.3 summarizes the impacts to Environmentally Sensitive Habitat Areas within the Coastal Zone.

Table 2.3. Estimated Impacts to Coastal Environmentally Sensitive Habitat Areas

Natural Community/ Jurisdictional Area	Permanent Impacts (Acre)	Permanent Impacts (Square Feet)	Temporary Impacts (Acre)	Temporary Impacts (Square Feet)
Stream/Other Waters	Less than 0.001	15.9	0.006	284.7
Riparian	Less than 0.001	57.4	0.003	91.1
Wetland	0	0	Less than 0.001	35.3
Coastal wetland	Less than 0.001	34.1	Less than 0.001	1.1

The Santa Cruz County Code Sensitive Habitat Protection Ordinance (Chapter 16.32) includes various approval conditions that would be enacted for permit approval; Section 16.32.100 provides an exception to the standards in Section 16.32.090. More specifically, a finding that the proposed safety and drainage improvements are necessary to protect the public welfare, health, and safety can be made and an exception can be granted upon approval of the

environmental coordinator following a biotic review pursuant to Santa Cruz County Code 16.32.070. A biotic review is a brief review of onsite biotic (living) resources conducted by a County-contracted biologist.

Avoidance, Minimization, and/or Mitigation Measures

Compensatory mitigation will be implemented to prevent a net loss of acreages, functions, and values of impacted Environmentally Sensitive Habitat Areas. Impacts to Environmentally Sensitive Habitat Areas will be restored at a 1-to-1 ratio for temporary impacts and a 3-to-1 ratio for permanent impacts. Native trees shall be replanted at a minimum 10-to-1 ratio to restore woodlands and riparian areas. Refer to Mitigation Measures BIO-8 and BIO-9. With the implementation of these mitigation measures as well as avoidance and minimization measures prescribed in this document, the project is not expected to cause significant impacts on Environmentally Sensitive Habitat Areas.

2.1.6 Cultural Resources

Considering the information in the Cultural Resources Screened Undertaking Memorandum dated December 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	**No Impact**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	**No Impact**
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	**No Impact**

2.1.7 Energy

Implementation of the project would result in the short-term use of fossil fuels, electricity, and natural gas by construction vehicles and equipment to replace and repair infrastructure such as drainage culverts, gore paving, lighting, and Transportation Management System elements. The use of these resources would be temporary and would not result in a significant demand on resources.

No direct or indirect effects related to wasteful, inefficient, or unnecessary energy consumption will occur. The project will not conflict with or obstruct any state or local plans for renewable energy or energy efficiency. Considering the information included in the Climate Change Technical

Memorandum dated March 2022 and the Air Quality, Greenhouse Gas, and Noise Technical Memo dated September 2021, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Energy
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	**No Impact**
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	**No Impact**

2.1.8 Geology and Soils

Considering the information in the Geologic and Seismic Analysis dated December 2021 and the Paleontological Identification Report dated May 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	**No Impact**
ii) Strong seismic ground shaking?	**No Impact**
iii) Seismic-related ground failure, including liquefaction?	**No Impact**
iv) Landslides?	**No Impact**
b) Result in substantial soil erosion or the loss of topsoil?	**No Impact**
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	**No Impact**
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	**No Impact**
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	**No Impact**

2.1.9 Greenhouse Gas Emissions

Considering the information in the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated September 2021 and the Climate Change Technical Memorandum dated March 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	**Less Than Significant Impact**
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	**Less Than Significant Impact**

Affected Environment

Greenhouse gas emissions from transportation projects can be divided into those produced during operation of the state highway system and those produced during construction. The main greenhouse gases produced by the transportation sector are carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons. Carbon dioxide emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of methane and nitrous oxide are emitted during fuel combustion. In addition, a small amount of hydrofluorocarbon emissions is included in the transportation sector.

Within the project limits, the existing facility is a 4- to 6-lane freeway between post mile 8.2 near Soquel Drive and post mile 17.56 near River Street, then the roadway transitions to a 4-lane conventional highway between post miles 17.56 and 26.0 near Laguna Road with 34 at-grade intersections. Within the City of Santa Cruz, from post miles 17.4 to 20.4, pedestrian facilities begin from the intersection of River Street and State Route 1 and continue to the intersection of Swift Street and State Route 1.

The project lies within the Coastal Zone from the beginning of the project limits at post mile 8.24 near Soquel Drive through post mile 13.2 near Chittenden Lane and then enters the Coastal Zone again from post mile 19.36 at Western Drive through the end of the project limits at post mile 25.93 near Laguna Road.

The Association of Monterey Bay Area Governments Metropolitan Transportation Plan guides transportation development in the area. The Association of Monterey Bay Area Governments includes Monterey, San Benito, and Santa Cruz counties as well as many local cities in the area. The 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy indicates the existing transportation system in the area is composed of roadways, transit, rail, bicycle, and pedestrian networks, airports and aviation, goods movement, and management strategies. The 2045 Metropolitan Transportation Plan/Sustainable Communities Strategy also addresses greenhouse gases in its jurisdiction and sets goals for reduction.

Environmental Consequences

Operational Emissions

The purpose of the project is to restore damaged culverts, improve maintenance worker safety and roadside maintainability, replace lighting elements, and install traffic count stations. The project will not increase the capacity of State Route 1. This type of project is not expected to increase operational greenhouse gas emissions. Because the project would not increase the number of travel lanes on State Route 1, no increase in vehicle miles traveled would occur as a result of project implementation. While some greenhouse gas emissions during the construction period would be unavoidable, no increase in operational greenhouse gas emissions is expected.

Construction Emissions

Construction greenhouse gas emissions would result from construction processes such as operation of construction equipment, worker travel, and material transport and processing. 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 transportation management during construction phases.

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

Construction greenhouse gas emissions were estimated using Caltrans' Construction Emissions Tool and default settings for a storm water and drainage project. The estimated average carbon dioxide emissions total is 337 tons per year, with the construction phase approximately 250 working days. Also, the estimated average carbon dioxide equivalent emissions total is about 384 tons generated over the 250-day construction period. Carbon dioxide equivalent is calculated by combining estimates of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons emissions. Note that these estimates are based on assumptions made during the environmental planning phase of the project and are considered "ballpark" amounts of energy usage. The project length was figured to be 1 mile as an engineering judgment after combining the lengths of proposed spot locations of work.

While the project would result in greenhouse gas emissions during construction, it is expected that the project will not result in any increase in operational greenhouse gas 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 construction greenhouse gas-reduction measures, the impact would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

The following minimization measures will be implemented in addition to Caltrans Standard Specifications in the project to further reduce greenhouse gas emissions and potential climate change impacts from the project:

GHG-1: Preserve as much existing vegetation as possible.

GHG-2: Revegetate all disturbed areas with native plant species appropriate to each specific work location.

GHG-3: The project will use appropriately sized equipment for project activities.

GHG-4: The project will maintain equipment in proper tune and working condition.

GHG-5: The project will limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment.

2.1.10 Hazards and Hazardous Materials

Considering the information in the Initial Site Assessment dated May 2022, the following significance determinations have been made:

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

Affected Environment

An Initial Site Assessment was done to identify potential sources of hazardous materials, hazardous waste, or contamination within or near the project and

provide recommendations for testing that may be needed to investigate and define hazardous waste or materials during the project design phase.

A review of environmental records and agency databases pursuant to Government Code 65962.5 was performed. Given the linear nature of the project and the location of project areas within developed parts of Santa Cruz County, the records search revealed dozens of closed and open cases listed in GeoTracker and EnviroStor. Several permitted underground storage tanks, gas stations, and other businesses commonly associated with hazardous waste generation were also identified. For cases where residual contamination occurs, impacted soil or groundwater did not extend beyond the site boundary and is not expected to be present within the area of potential effect where work will occur. Although several hazardous sites and businesses commonly associated with hazardous waste generation occur within the project corridor, there is a low potential for encountering contamination during construction.

Routine Hazardous Waste

Contaminants and waste streams that are frequently encountered or produced by Caltrans projects are referred to as routine hazardous waste. Investigation of these routine wastes is typically conducted during the project design phase. Standard Special Provisions have been developed for the proper handling, treatment, and disposal if needed of routine hazardous materials and wastes encountered during highway construction activities to protect the health of workers, the public, and the environment.

The historic use of leaded gasoline in automobiles has led to soils along roadways throughout California containing elevated concentrations of lead. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016 Aerially Deposited Lead Agreement between Caltrans and the California Department of Toxic Substances Control. This agreement outlines which soils can be safely reused within the project limits and which soils must be exported and disposed of as hazardous waste.

Yellow traffic paint purchased by Caltrans prior to 1997 contained high concentrations of lead. Application of yellow thermoplastic material containing high concentrations of lead continued until at least 2004 to 2006. The lead concentrations in the older yellow paint and yellow thermoplastic are high enough to make these materials hazardous wastes when they are removed.

Highway guardrail support posts and signposts often consist of wood treated with chemical preservatives to prevent rot or damage from insects. Treated wood waste is considered a California hazardous waste.

Environmental Consequences

Routine hazardous materials and wastes that may be encountered during the project are discussed below.

- **Aerially deposited lead.** Previous soil sampling investigations within the project corridor documented elevated concentrations of lead. Based on this, a more extensive review of previous studies will be completed during the project design phase. A Preliminary Site Investigation including soil sampling and laboratory analysis for aerially deposited lead will be completed in areas of the project where no sampling has yet been completed or where supplemental sampling is deemed necessary. Appropriate specifications will be included in the construction contract based on soil sampling results and in accordance with the 2016 Aerially Deposited Lead Agreement. It is expected that Caltrans Standard Specifications 14-11.08 and 7-1.02K(6)(j)(iii) will be included in the construction contract.

- **Yellow thermoplastic or traffic stripe**. The existing yellow stripe within the project area is nonhazardous. Culverts that will be replaced via the cut and cover method may require removal of yellow traffic stripe. Caltrans Standard Specification 84-9.03B will be followed if the stripe removal is completed separately, or Caltrans Standard Specification 36-4 will be followed if the stripe is removed as part of a cold-plane or grinding operation. A Lead Compliance Plan will be developed and implemented by the construction contractor to ensure proper removal, handling, and disposal of yellow traffic stripe.

- **Treated wood waste**. Treated wood waste may be generated if guardrail, barrier, or signs need to be removed or replaced. Treated wood waste would be disposed of appropriately, and the Standard Special Provision Section 14-11.14 would be included in the construction contract for proper management and disposal of treated wood waste.

Ten schools sit within a quarter-mile of the project limits: Aptos Junior High at 1001 Huntington Drive, Valencia Elementary at 250 Aptos School Road, Mar Vista Elementary at 6860 Soquel Drive, Delta Charter at 6500 Soquel Drive, Soquel Elementary at 2700 Porter Street, Harbor High at 300 La Fonda Avenue, Live Oak Elementary at 986 Bostwick Lane, Santa Cruz High at 415 Walnut Avenue, Bay View Elementary at 1231 Bay Street, and Pacific Collegiate Charter at 3004 Mission Street. The project would implement Caltrans Best Management Practices and other standard procedures during construction activities to properly store, handle and dispose of potentially hazardous materials as described above.

Routine hazardous waste issues may be encountered during project construction, but would be appropriately handled, treated, and disposed of as required with implementation of Caltrans Standard Specifications and Special Provisions. Adverse effects to human health and the environment would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

The following minimization measure will be implemented in addition to Caltrans Standard Specifications to ensure appropriate characterization and management of aerially deposited lead-contaminated soils within the project area.

HAZ-1: A review of existing aerially deposited lead data and completion of a Preliminary Site Investigation that includes supplemental soil sampling for aerially deposited lead shall be completed during the project design phase once more detailed information about the limits of project earthwork are known. Identified aerially deposited lead-contaminated soils will be managed following Caltrans Standard Specifications 14-11.08 and 7-1.02K(6)(j)(iii) and in compliance with the 2016 Aerially Deposited Lead Agreement between Caltrans and the Department of Toxic Substances Control.

2.1.11 Hydrology and Water Quality

Considering the information in the Location Hydraulic Study dated January 2022 and the Water Quality Assessment Report dated January 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	**Less Than Significant Impact**
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	**No Impact**
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation onsite or offsite;	**No Impact**
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	**Less Than Significant Impact**
(iv) impede or redirect flood flows?	**No Impact**
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	**No Impact**
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	**No Impact**

Affected Environment

The project study area crosses through three sub-watersheds: Aptos-Soquel, San Lorenzo, and Davenport. The receiving water bodies for this project are Porter Gulch, Soquel Creek, Rodeo Gulch Creek, Arana Gulch, San Lorenzo River, Moore Creek, Wilder Creek, Sand Flat Gulch, Old Dairy Gulch, Majors Creek, and Laguna Creek. The project is divided into three Hydrologic Sub Areas within Santa Cruz Hydrologic Area and Big Basin Hydrologic Unit: Davenport (#304.11), San Lorenzo (#304.12), and Aptos-Soquel (#304.13). Six of the 11 receiving water bodies for the project area are listed on the Clean Water Act Section 303(d) List for impaired water bodies as described below. Many of the pollutants listed are a result of agricultural farming activities, raising domestic livestock, and urban runoff.

The Aptos-Soquel sub-watershed consists of mostly forested land uses in the upper watershed to more urbanized land uses in unincorporated areas of Soquel, Aptos, and Capitola in the lower watershed. Within the Aptos-Soquel sub-watershed, project locations from post miles 8.2 to 10.5 drain toward Aptos Creek and its primary tributary, Valencia Creek. Valencia Creek is on the 303(d) List for pathogens and sediment. The project location at post mile 12.1 drains into Tannery Gulch. The project locations from post miles 12.5 to 13.59 drain toward Soquel Creek. Soquel Creek is on the 303(d) List for pathogens. The project location at post mile 14.00 drains toward Rodeo Creek.

The San Lorenzo is the largest watershed lying completely within Santa Cruz County. Originating in the Santa Cruz Mountains, it flows southeast toward the Pacific Ocean. Much of the upper watershed is forested, while the lower watershed encompasses the urbanized City of Santa Cruz. Within the San Lorenzo sub-watershed, project locations at post miles 14.77 and 15.04 drain

toward Arana Gulch. Project locations from post miles 16.08 to 18.71 drain toward the San Lorenzo River or its tributary, Carbonera Creek. The project location at post mile 19.35 drains toward a small unnamed stream. The San Lorenzo River and Arana Gulch are listed on the 303(d) List for pesticides (e.g., chlorpyrifos) and pathogens. The San Lorenzo River is also on the 303(d) List for chemicals (e.g., PCBs); nitrates; sediment, and temperature. A sediment Total Maximum Daily Load for the San Lorenzo River (and associated tributaries Carbonera Creek, Lompico Creek, and Shingle Mill Creek) has been adopted.

The Davenport sub-watershed consists of several small drainages from the east side of the Santa Cruz Mountains south to the Pacific Ocean. Agricultural and open space land uses predominate. Within the Davenport sub-watershed, project location post mile 20.41 drains toward Moore Creek. Moore Creek is included on the 303(d) List of impaired waters for E. coli, dissolved oxygen, conductivity, and pH. The project location at post mile 21.52 drains toward Wilder Creek. The project location post mile 21.78 drains toward Dairy Gulch. Project locations at post miles 23.45 and 24.16 drain toward Baldwin Creek. Project locations at post miles 24.9 and 25.16 drain toward Majors Creek. Project locations at post miles 25.73 and 25.93 drain toward Laguna Creek.

Four groundwater units lie within the project area: Majors Creek, Needle Rock Point, Santa Cruz Mid-County, and West Santa Cruz Terrace. Groundwater is anticipated to be lower than the bottom of proposed excavation activities and is therefore not expected to be impacted by the project.

Most of the project limits are in areas outside of the 100-year floodplain, designated as Zone X by the Federal Emergency Management Agency. The location at post mile 17.62 outlets to a Zone A99, which is designated as an area subject to inundation by the 1 percent annual chance flood event. The project culverts convey runoff mostly from natural drainage features or sheet flow from roadway drainage through dikes and embankment facilities.

Portions of the project area are within a designated Significant Trash Generating Area, as defined by the State Water Resources Control Board in the Caltrans Statewide Trash Implementation Plan. Caltrans is required to implement full trash capture best management practices to address the pervasive impacts of trash on the beneficial uses of receiving surface waters.

Environmental Consequences

Thirty culverts were identified as needing repair or replacement and have varying levels of invert damage, shape loss, joint separation, and/or outlet scouring. The culverts would be repaired and replaced via the cut and cover method, which is usually accomplished by digging a trench with an excavator. The trench width depends on the pipe diameter, and the depth and slope are

determined by the engineer. Other drainage improvements include strategies such as stabilizing the channels and reconstructing ditches, placing new or replacing existing pipes, culvert invert paving, and joint repair. Twenty-two of the 30 culverts would be replaced with a larger-diameter pipe. The remaining 8 culverts would be replaced with the same-diameter pipe as the existing culvert.

The replacement and repair work would not alter the watersheds that contribute surface runoff via tributaries into the project culverts. Also, as culvert pipe size (diameter) increases, the drainage flow rates (velocities) decrease, and potential scour is reduced; the smaller the pipe diameter, the greater the force of water that builds up behind it. Caltrans is a named stakeholder in the sediment impairment for the San Lorenzo River watershed, and best management practices implemented for the project would help minimize sediment discharge to the impaired water bodies.

In addition, as concluded by the Location Hydraulic Study, the project would not cause a significant floodplain encroachment or have any potentially significant impact on the 100-year floodplain. The culverts would be designed in accordance with Federal Highway Administration criteria to meet required storm event requirements. Therefore, the culvert replacement/repairs would not generate additional surface runoff that would increase flood flows in flood zones or cause additional flood hazards that would impact the ability of existing downstream stormwater facilities to convey surface drainage system capacities.

Caltrans will evaluate opportunities to retrofit infrastructure with full trash capture best management practices, such as trash nets, to address trash impacts in Significant Trash Generating Areas in the design phase to the extent feasible.

Caltrans Standard Specifications and Best Management Practices would be implemented to minimize and avoid impacts to surface water, including potential erosion and sedimentation during construction. A Water Pollution Control Plan would be required to be prepared to implement best management practices for erosion and sediment control. Implementation of these standard measures would ensure potential water quality effects are minimal and short term.

Project design features would also help minimize long-term erosion and sedimentation. Some of the existing embankments at culvert inlets and outlets are exhibiting slope failure and soil erosion. Replacement of the project culverts would provide for the opportunity to stabilize the embankment slope to prevent further embankment erosion and reduce the concentrated flow velocity.

Avoidance, Minimization, and/or Mitigation Measures

No additional measures are proposed.

2.1.12 Land Use and Planning

Existing and future land uses within or adjacent to the project limits on State Route 1 would not be changed as a result of the project, nor would the project divide an established community. No changes to the alignment, function, or capacity of the highway are proposed. The project would not conflict with the elements of the County of Santa Cruz General Plan or any other land use policy or regulation intended to avoid or mitigate any effects on the environment. Because the project would repair aging drainage infrastructure within the highway corridor and would not increase the capacity of the highway, it would not directly or indirectly cause changes in land uses that would conflict with planning policies and regulations.

Coastal Zone policies and regulations for the protection of coastal resources apply to portions of the project limits along State Route 1, as discussed in Section 2.1.5 and Appendix B, Coastal Policy Analysis. Caltrans will coordinate with the County of Santa Cruz, the City of Santa Cruz, and the City of Capitola for the Coastal Development Permit application process related to the potential effects of the project on protected coastal resources and Environmentally Sensitive Habitat Areas. An application for a Coastal Development Permit will be submitted to the County of Santa Cruz, the City of Santa Cruz, and the City of Capitola upon completion of the final environmental document. The approved permit shall specify the required replacement plantings and any other applicable mitigation measures for impacts to protected coastal resources in the coastal jurisdiction.

Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	**No Impact**
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	**No Impact**

2.1.13 Mineral Resources

Based on information from the County of Santa Cruz General Plan and the Caltrans Division of Environmental Analysis Geographical Information Systems Library, there are no mineral resources such as mine locations, mining districts, oil and gas seeps, or mining disturbed areas occupying the same locations as the areas of potential impact. The entrance to the Santa Cruz Sand Plant at 1800 Coast Road is immediately west of location 33 at

post mile 21.78, but no impact to the mining operations will occur. The project would not require any acquisition of land nor would it impact any mining operations that may occur near the project limits. Therefore, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	**No Impact**
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	**No Impact**

2.1.14 Noise

Considering the information in the Air Quality, Greenhouse Gas, and Noise Technical Memorandum dated September 2021, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
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?	**No Impact**
b) Generation of excessive groundborne vibration or groundborne noise levels?	**No Impact**
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	**No Impact**

2.1.15 Population and Housing

The project will not have an impact on population and housing. No additional housing or development is proposed, nor does the project remove or displace any existing housing.

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

2.1.16 Public Services

The highway would remain open at all times during construction, and the project will not have an impact on public services.

Question:	CEQA Significance Determinations for Public Services
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?	**No Impact**
Police protection?	**No Impact**
Schools?	**No Impact**
Parks?	**No Impact**
Other public facilities?	**No Impact**

2.1.17 Recreation

Various types of recreational facilities are adjacent to or nearby the project limits along State Route 1. The project does not include any recreational components and would not generate an increase in population and a potential resultant demand for recreational facilities. Therefore, the project is not expected to directly or indirectly affect existing recreational facilities or cause increased demand for additional or expanded facilities.

The improvements would occur mostly in the existing state highway right-of-way. However, temporary construction easements to enable off-highway work during construction activities and permanent drainage easements for long-term facility maintenance may be required at some culvert locations. Although there are several recreational uses adjacent to culvert locations, the easements would not impact the existing recreational uses or facilities adjacent to the highway. Refinement of any easement requirements for construction and maintenance of the culvert repair locations would be conducted during the Plans, Specifications, and Estimates phase of the project. Procedures for short-term and long-term right-of-way access permission of non-state property use would be implemented through Caltrans standard procedures.

Considering this information, the following significance determinations have been made:

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

2.1.18 Transportation

The project would not conflict with existing transportation planning documents for the area. The project intends to improve circulation by reducing the required maintenance of existing facilities and improve transportation management and safety. The project does not include additional travel lanes, so it would not induce additional vehicle miles traveled or population growth. During construction, it is expected that one side of the freeway would be worked on at

a time and at least one lane would remain open to traffic in each direction. This will ensure adequate emergency access is provided at all times.

Considering this information, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Transportation
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	**No Impact**
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	**No Impact**
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	**No Impact**
d) Result in inadequate emergency access?	**No Impact**

2.1.19 Tribal Cultural Resources

Considering the information in the Cultural Resources Screened Undertaking Memorandum dated December 2021, the following significance determinations have been made:

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

Question:	CEQA Significance Determinations for Tribal Cultural Resources
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	**No Impact**

Question:	CEQA Significance Determinations for Tribal Cultural Resources
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	**No Impact**

2.1.20 Utilities and Service Systems

Several project locations are within areas surrounded by utility infrastructure such as traffic lights and signals, overhead and underground powerlines, storm drains and manholes, and streetlights. Locations of existing utilities would be confirmed during the Plans, Specifications, and Estimates phase of the project, and with that information, Caltrans can confirm whether or not relocations would be necessary. Caltrans will continue communication with the utility owners throughout the Plans, Specifications, and Estimates phase and the construction phase of the project to ensure that construction methods implemented for the project work locations would enable protection in place of existing utilities and that no conflicts occur with utility services or equipment. If utilities need to be relocated, Caltrans will review the proposed locations at that time to ensure no significant environmental effects are caused. The project does not include new wastewater, storm water or natural gas lines.

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
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?	**No Impact**
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	**No Impact**
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	**No Impact**
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	**No Impact**

2.1.21 Wildfire

Based on information in the California Department of Forestry and Fire Protection's Fire Hazard Severity Zone Mapping and the Local Responsibility Areas of the County of Santa Cruz Geographic Information Systems Mapping, the City of Santa Cruz's Fire Hazard Area Map, and the City of Capitola's General Plan, the project is in an area designated as a moderate fire hazard severity zone. The following significance determinations have been made:

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

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	**No Impact**
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	**No Impact**
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	**No Impact**

Question—Would the project:	CEQA Significance Determinations for Wildfire
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?	**No Impact**

2.1.22 Mandatory Findings of Significance

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

The following discussion provides information addressing questions "a" and "b" in the checklist above. Regarding question "c," the project would repair and replace existing drainage infrastructure, improve lighting facilities, and add new Transportation Management System equipment. Potential environmental effects of the project would occur during project construction activities. The improvements would not cause substantial impacts on human beings.

Affected Environment

The project would affect environmental resources within and immediately surrounding post miles 8.2 to 26.0 on State Route 1 in Santa Cruz County. The scope of the project would be limited to restoration of 30 existing drainage culverts, improvement of 47 roadside safety locations by paving gore areas, rehabilitation of 32 lighting elements, and installation of 12 Transportation Management Systems, including count stations and census loops.

Environmental Consequences

Overall, the project is not expected to substantially degrade the quality of the environment. The project would not have a substantial adverse effect on scenic vistas or substantially alter the existing appearance of the project locations. The proposed drainage infrastructure, rehabilitated lighting, roadside safety paving, and Transportation Management System elements would incrementally increase the existing utilitarian appearance of the project work areas, but overall would be subordinate to the overall experience of traveling along the highway. Project construction would require staging areas and tree and vegetation trimming for access. Although temporary, impacts to visual quality would be minimized with the implementation of the avoidance and minimization measures discussed in Section 2.1.1 Aesthetics.

Project construction activities would cause temporary and permanent impacts to sensitive habitat areas, including California red-legged frog critical habitat, coastal Environmentally Sensitive Habitat Areas, and jurisdictional wetlands, riparian areas, and streams and other waters. Tree trimming is required at several locations to accommodate the proposed improvements, and 9 trees are expected to be removed.

Impacts to biological resources and sensitive habitats, including coastal Environmentally Sensitive Habitat Areas, resulting from the project would be significant. Mitigation measures are required to restore impacted areas, replant native trees, and purchase compensatory mitigation for impacts to jurisdictional areas, including Environmentally Sensitive Habitat Areas. Implementation of the mitigation measures discussed in Section 2.1.4 would reduce impacts to biological resources to less than significant.

Some greenhouse gas emissions would occur during construction from equipment, processing of construction materials, construction vehicle use, and public vehicles idling during minor traffic delays during construction. Impacts would be less than significant with the implementation of Caltrans Standard Specifications and the avoidance and minimization measures discussed in Section 2.1.8 Greenhouse Gas Emissions.

With the implementation of Caltrans Standard Specifications, Special Standard Provisions, Best Management Practices, and avoidance, minimization, and mitigation measures, impacts to environmental resources would be less than significant.

Caltrans guidance for cumulative impacts assessments includes defining a Resource Study Area, the geographic area within which impacts on a resource are analyzed. The boundaries of Resource Study Areas for cumulative impacts analysis are often broader than the boundaries used for project-specific analysis. The Resource Study Area for impacts to the California red-legged frog and jurisdictional features is defined by the 8 watersheds surrounding the project locations, with a 5-mile buffer around the watersheds. Several other projects, including Caltrans projects, may incur temporary and permanent impacts to jurisdictional features and the California red-legged frog and its critical habitat in this Resource Study Area. When considered in a cumulative effects context, this project is not anticipated to substantially contribute to adverse cumulative impacts to jurisdictional features and the California red-legged frog because the project would fully mitigate for impacts to jurisdictional features.

Avoidance, Minimization, and/or Mitigation Measures

No additional measures are proposed.

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Appendix A Title VI Policy Statement

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

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Making Conservation a California Way of Life.

September 2021

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.*"

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

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/civil-rights/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 Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

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Appendix B Coastal Policy Analysis

This appendix contains the relevant policies from the local coastal programs of each local jurisdiction and evaluates whether the project is consistent with those policies.

Figure B-1 shows the project locations within the Coastal Zone jurisdictions. The following pages include a listing of relevant policies from these sources:

- California Coastal Act (Resource Planning and Management Policies)
- County of Santa Cruz – Local Coastal Program (Adopted 1994)
    - Chapter 3: Circulation
    - Chapter 5: Conservation and Open Space
    - Chapter 7: Parks, Recreation and Public Facilities
    - Chapter 16.30: Riparian Corridor and Wetlands Protection
    - Chapter 16.32: Sensitive Habitat Protection
- City of Santa Cruz Local Coastal Program (Adopted 1992)
- City of Capitola Land Use Plan - Local Coastal Program (Adopted 1981)

The relevant key policies from each plan and ordinance have been grouped together by subject in Table B.1. For each key policy, a determination was made for whether the project is consistent with Coastal Zone policies, and a discussion is provided. Policies for resources that would not be affected by the project are not included.

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Figure B-1 Project Locations within Coastal Zone Jurisdictions

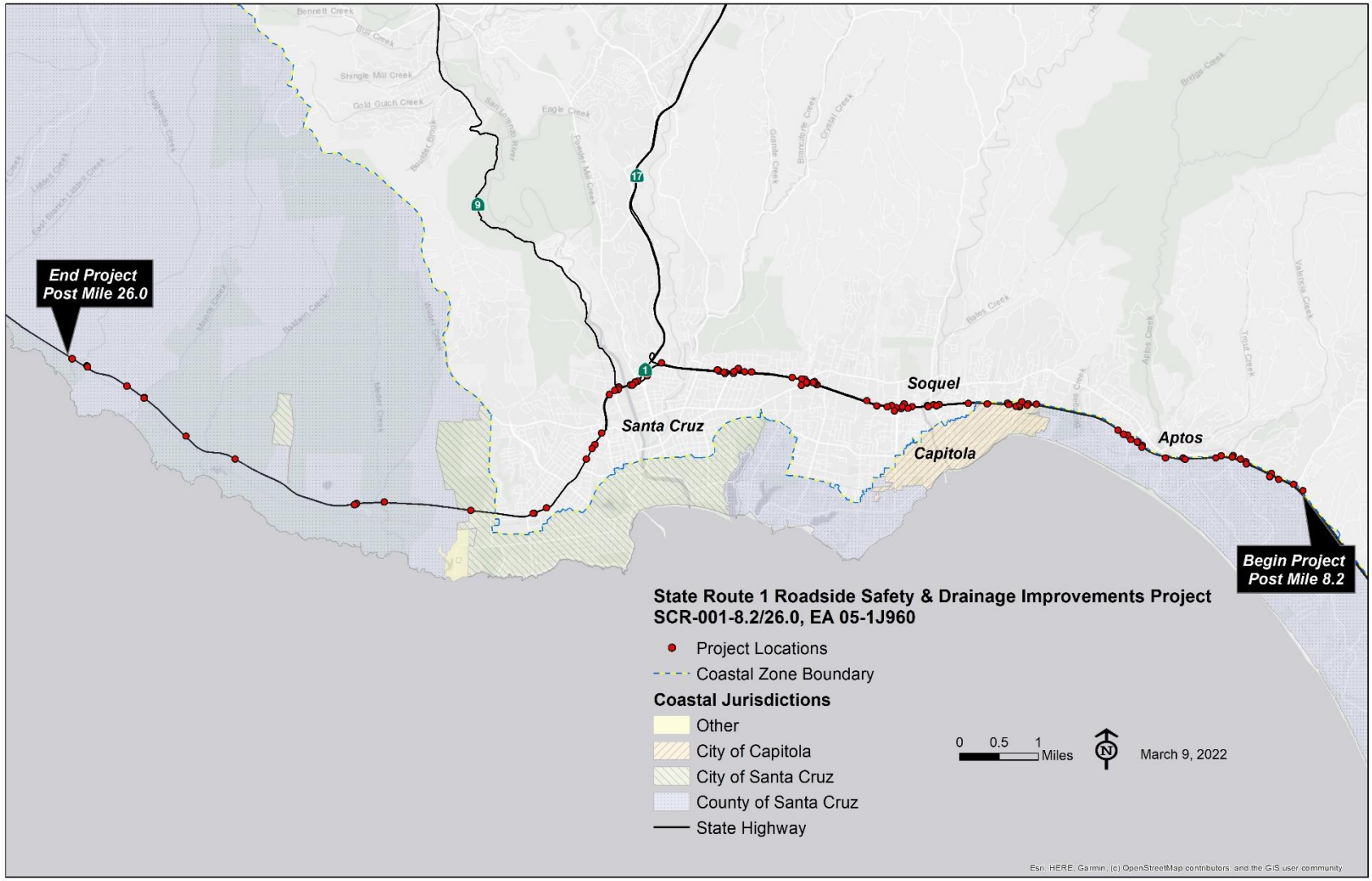

Table B.1 Coastal Policy Analysis

California Coastal Act Chapter 3 County of Santa Cruz 1994 General Plan and Local Coastal Program City of Santa Cruz 1992 Local Coastal Program and Coastal Land Use Policies and Maps City of Capitola 2005 Land Use Plan and Local Coastal Program	Policy Consistency Analysis
AGRICULTURAL RESOURCES ***Coastal Act Section 30241 (in relevant part):*** The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses. ***Coastal Act Section 30242 (in relevant part):*** All other lands suitable for agricultural use shall not be converted to nonagricultural uses. ***Coastal Act Section 30243:*** The long-term productivity of soils and timberlands shall be protected, and conversions of coastal commercial timberlands in units of commercial size to other uses or their division into units of noncommercial size shall be limited to providing for necessary timber processing and related facilities. ***City of Santa Cruz Policy EQ.3.4***: Protect significant agriculture and grazing lands within and along the periphery of the City from development utilizing exclusive agriculture/grazing zoning and Williamson Act contracts. ***City of Santa Cruz Policy L.3.3***: Require development adjacent to natural areas and agricultural/grazing lands to be compatible with adjacent lands in terms of land use, visual transition and siting.	No prime agricultural lands or timberlands are located within the project locations. No soils within the project area are designated as Class I or Class II. Agricultural grazing lands are found within or adjacent to several of the project locations. There would be no long-term changes to land use, and the project would not affect any agricultural activities. Therefore, no conflicts with California Coastal Act or the Local Coastal Program policies of the County of Santa Cruz or City of Santa Cruz related to agricultural resources would result from implementation of the project.
PUBLIC ACCESS AND RECREATION ***Coastal Act Section 30210***: In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. ***Coastal Act Section 30211:*** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	The project would not conflict with specified policies relating to public access and recreation. The project would improve coastal access by reducing ongoing maintenance needs, improving roadside safety, and improving the reliability of Transportation Management Systems. The project is therefore consistent with these policies.

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Coastal Act Section 30213: Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. ***County of Santa Cruz Policy 3.14.2:*** Priority to recreational improvements. In the development of transportation improvement programs, consider giving priority to road improvements that provide access to recreational resources. ***County of Santa Cruz Policy 7.7.10:*** Protecting Existing Beach Access. Protect existing pedestrian, and, where appropriate, equestrian and bicycle access to all beaches to which the public has a right of access, whether acquired by grant or through use, as established through judicial determination of prescriptive rights, and acquisition through appropriate legal proceedings. Protect such beach access through permit conditions such as easement dedication or continued maintenance as an accessway by a private group, subject to policy 7.6.2. ***City of Santa Cruz Policy L.3.5:*** Protect coastal recreation areas, maintain all existing coastal access points open to the public, and enhance public access, open space quality and recreational enjoyment in a manner that is consistent with the California Coastal Act.	
VISUAL RESOURCES AND COMMUNITY CHARACTER ***Coastal Act Section 30251***: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting. ***County of Santa Cruz Policy 5.10.2:*** Development within visual resources. Recognize that visual resources of Santa Cruz County possess diverse characteristics and that the resources worthy of protection may include, but are not limited to, ocean views, agricultural fields, wooded forests, open meadows, and mountain hillside views. Require projects to be evaluated against the context of their unique environment and regulate structure height, setbacks, and design to protect these resources consistent with the objectives and policies of this section. Require discretionary review for all development within the visual resource area of State Route 1, outside of the urban/rural	The project is located well inland from the shoreline, no closer than a quarter mile, and the portion of State Route 1 within the project limits is not designated as a State Scenic Highway. The project would not obstruct public views or ocean vistas, nor modify ridgetops. The project would result in visual impacts from vegetation removal, installation of structures such as culvert improvements, Transportation Management System elements, and additional paving that would be visible from the roadway. These elements would cause a minor reduction of rural character and visual quality. During and following construction, the most noticeable aspect of the project would likely be the potential staging areas, and a reduction in

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boundary, as designated in the general plan/local coastal program visual resources map and apply the design criteria of Section 13.20.130 of Santa Cruz County's zoning ordinance to such development. ***County of Santa Cruz Policy 5.10.4***: Preserving natural buffers. Preserve the vegetation and landform of natural wooded hillsides that serve as a backdrop for new development. Also, comply with policy 8.6.6 regarding the protection of ridgetops and natural landforms. ***County of Santa Cruz Policy 5.10.6:*** Where public ocean vistas exist, require that these vistas be retained to the maximum extent possible as a condition of approval for any new development. ***County of Santa Cruz Policy 5.10.8:*** Significant tree removal ordinance. Maintain the standards in Santa Cruz County's existing ordinance, which regulates the removal of significant trees and other major vegetation in the Coastal Zone and provides appropriate protection for significant trees and other major vegetation in areas of Santa Cruz County within the Urban Services Line. ***City of Santa Cruz Policy CD.2.1:*** Preserve natural features providing visual definition to an area within the City. ***City of Santa Cruz Policy CD.2.2:*** Preserve important public views and viewsheds by ensuring that the scale, bulk and setback of new development does not impede or disrupt them. ***City of Santa Cruz Policy L.1.6:*** Minimize, when practical, obstruction of important views and viewsheds by new development. In the Coastal Zone, development shall be sited and designed to and along the ocean and in scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and to restore visual quality in visually degraded areas. ***City of Capitola Policy 3-4:*** It shall be the policy of the City of Capitola to require the planting of trees in new development and to protect existing trees by allowing removal only in accordance with the City's Tree Ordinance. The City should encourage new developments to be designed to preserve significant vegetation. ***City of Capitola Policy 3-5:*** Permitted development shall not block or detract from public views to and along Capitola's shoreline.	trees and native vegetation associated with the drainage construction access. Although some of these actions may be considered temporary, any associated tree and vegetation removal and/or severe pruning may be noticed after construction, resulting in a loss of visual quality. Minimization measures include vegetation preservation, revegetation of all disturbed surfaces with native species, replacement planting of native trees, and aesthetic treatments to paving beyond gore areas, metal roadside elements, and Transportation Management System elements. With the incorporation of these measures, the project would be consistent with the policies protecting visual resources.

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WETLANDS AND BIOLOGICAL RESOURCES ***Coastal Act Section 30230:*** Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreation, scientific, and educational purposes. ***Coastal Act Section 30231:*** The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams. ***Coastal Act Section 30233***: *(in relevant part).* (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following: (1) New or expanded port, energy, and coastal dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. (4) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines. (5) Mineral extraction, including sand for beaches, except in environmentally sensitive areas. (6) Restoration purposes. (7) Nature study, aquaculture, or similar resource dependent activities. ***County of Santa Cruz Policy 5.1.4:*** Protection of sensitive habitats. Implement the protection of sensitive habitats by maintaining the existing sensitive habitat protection ordinance. The ordinance identifies sensitive habitats, determines the uses that are allowed in and next to sensitive habitats, and specifies required performance standards for land in or next to these areas. Any amendments	The project would have unavoidable impacts to jurisdictional areas, sensitive natural communities, and federally designated critical habitat and therefore would be potentially inconsistent with coastal policies to protect biological resources. Avoidance, minimization, and mitigation measures in Section 2.1.4 would reduce impacts to biological resources. The project would seek an exception, per Santa Cruz County Code16.32.100, which would be granted upon approval of the environmental coordinator following a biotic review pursuant to Santa Cruz County Code 16.32.070. Impacts were quantified based on ground disturbance and vegetation disturbance/tree removal at all project locations, including potential disturbance areas for both permanent and temporary impacts and assuming the maximum amount of disturbance associated with construction of the project (including cut and fill, staging, and access). Temporary impacts would consist of staging and storage areas, equipment access, clearing vegetation, and temporary dewatering/ diversion, if needed. Permanent impacts would result from gore paving, rock slope protection installation, and new foundations needed for lighting elements and Transportation Management Systems. Following construction, it is anticipated that all areas of temporary disturbance to natural habitats would be stabilized and revegetated.

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to this ordinance shall require a finding that sensitive habitats shall be afforded equal or greater protection by the amended language. ***County of Santa Cruz Policy 5.1.6:*** Development within sensitive habitats. Sensitive habitats shall be protected against any significant disruption of habitat values. Any proposed development within or next to these areas must maintain or enhance the functional capacity of the habitat. Reduce in scale, redesign, or, if no other alternative exists, deny any project that cannot sufficiently mitigate significant adverse impacts on sensitive habitats unless approval of a project is legally necessary to allow reasonable use of the land. ***County of Santa Cruz Policy 5.2.2:*** Riparian corridor and wetland protection ordinance. Implement the protection of riparian corridors and wetlands through the Riparian Corridor and Wetland Protection ordinance to ensure no net loss of riparian corridors and riparian wetlands. The ordinance identifies and defines riparian corridors and wetlands, determines the uses that are allowed in and next to these habitats, and specifies required buffer setbacks and performance standards for land in and next to these areas. Any amendments to this ordinance shall require a finding that riparian corridors and wetlands shall be afforded equal or greater protection by the amended language. ***County of Santa Cruz Policy 5.2.3:*** Activities within riparian corridors and wetlands. Development activities, land alteration, and vegetation disturbance within riparian corridors and wetlands and required buffers shall be prohibited unless an exception is granted per the Riparian Corridor and Wetlands Protection ordinance. As a condition of riparian exception, require evidence of approval for development from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and other federal or state agencies that may have regulatory authority over activities within riparian corridors and wetlands. ***County of Santa Cruz Policy 5.2.5***: Setbacks from wetlands. Prohibit development within the 100- foot riparian corridor of all wetlands. Allow exceptions to this setback only where consistent with the Riparian Corridor and Wetlands Protection ordinance, and in all cases, maximize the distance between proposed structures and wetlands. Require measures to prevent water quality degradation from nearby land uses, as outlined in the water resources section. ***County of Santa Cruz Riparian Corridor and Wetlands Protection Ordinance (Chapter 16.30 of the Santa Cruz County Code)***. The purpose of this Ordinance is to minimize and to eliminate any development activities in the riparian corridor, preserve, protect, and restore riparian corridors	The project would require a Clean Water Act Section 404 Nationwide Permit from the U.S. Army Corps of Engineers, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 1602 Streambed Alternation Agreement from the California Department of Fish and Wildlife. A Mitigation and Monitoring Plan would be prepared to mitigate impacts to jurisdictional areas and coastal Environmentally Sensitive Habitat Areas. Temporary impacts would be restored at a 1-to-1 ratio (acreage), and compensatory mitigation for permanent impacts to jurisdictional areas is proposed at a 3-to-1 ratio (acreage). The Federal Endangered Species Act Section 7 effects determination is that the project may affect, and is likely to adversely affect, the California red-legged frog and its critical habitat. It is anticipated that the project would meet the criteria for the Programmatic Biological Opinion for the purposes of U.S. Fish and Wildlife Service consultation. Limited tree removal is anticipated with this project. Tree replanting would be included in the project plans to offset the loss of any trees. Native trees would be replanted at a minimum of a 10-to-1 replacement ratio. Avoidance and minimization of ground disturbance due to project-related actions would be achieved with the establishment of Environmentally Sensitive Areas, and fencing

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for: protection of wildlife habitat; protection of water quality; protection of aquatic habitat; protection of open space, cultural, historical, archaeological and paleontological, and aesthetic values; transportation and storage of floodwaters; prevention of erosion; and to implement the policies of the General Plan and the Local Coastal Program Land Use Plan. ***County of Santa Cruz Sensitive Habitat Protection Ordinance (Chapter 16.32 of the Santa Cruz County Code)***. The purpose of this ordinance is to minimize disturbances to biotic communities that are rare or especially valuable because of their special nature or role in an ecosystem and could be easily disturbed or degraded by human activity; protect and preserve these biotic resources for their genetic, scientific, and educational values and implement policies of the general plan and the Local Coastal Program Land Use Plan. ***City of Santa Cruz Policy EQ.4.2:*** Preserve and enhance the character and quality of riparian and wetland habitats, as identified on Maps EQ-8 and EQ-11 of the City General Plan, or as identified through the planning process or as designated through the environmental review process. ***City of Santa Cruz Policy EQ.4.4:*** Preserve the character and quality of brush, mixed evergreen forest, Monterey pine, redwood forest and eucalyptus habitats, as identified on Map EQ-8 by minimizing removal of trees and brush where they are an integral part of the community or habitat and requiring introduced landscaping to be compatible with the established tree and/or brush community. ***City of Santa Cruz Policy EQ.4.5:*** Continue the protection of rare, endangered, sensitive and limited species and the habitats supporting them as shown in Map EQ-9 or as identified through the planning process or as designated as part of the environmental review process. ***City of Santa Cruz Policy EQ.4.6:*** Encourage the planting and restoration of native rather than non-native vegetation throughout the City and also in areas where plants or habitats are diseased or degraded. ***City of Santa Cruz Policy CD.6.1:*** Protect existing significant vegetation and landscaping that provides scenic as well as wildlife habitat and forage value.	would be used to protect these areas and trees to avoid. Fencing the Environmentally Sensitive Areas would ensure that unnecessary disturbance does not occur outside of the project limits. Environmentally Sensitive Area limits would be shown on the final layout plans. Although temporary and permanent impacts to wetlands, riparian, and stream areas would occur from the replacement of several culverts within the Coastal Zone, measures to minimize impacts and measures to restore impacted areas would reduce adverse effects to the maximum extent feasible.

Environmentally Sensitive Habitat Area (ESHA) ***Coastal Act Section 30107.5:*** "Environmentally sensitive area" means 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 which could be easily disturbed or degraded by human activities and developments. ***Coastal Act Section 30240:*** (a) Environmentally Sensitive Habitat Areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) Development in areas next to Environmentally Sensitive Habitat Areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas.	The proposed project would result in permanent and temporary impacts to Environmentally Sensitive Habitat Areas in the Coastal Zone: - Less than 0.001 acre (34.1 square feet) of unavoidable permanent impacts and less than 0.001 acre (1.1 square feet) of temporary impacts to Coastal Wetland Environmentally Sensitive Habitat Area. - Less than 0.001 acre (35.3 square feet) of temporary impacts to Wetland Environmentally Sensitive Habitat Area. - Less than 0.001 acre (15.9 square feet) of unavoidable permanent impacts and 0.006 acre (284.7 square feet) of temporary impacts to Stream Environmentally Sensitive Habitat Area. - Less than 0.001 acre (57.4 square feet) of unavoidable permanent impacts and 0.003 acre (91.1 square feet) of temporary impacts to Riparian Environmentally Sensitive Habitat Area. The Environmentally Sensitive Habitat Area impacts described above are within the County of Santa Cruz coastal jurisdiction. The project would seek an exception, per Santa Cruz County Code 16.32.100, which would be granted upon approval of the environmental coordinator following a biotic review pursuant to Santa Cruz County Code 16.32.070. The proposed transportation improvement project is not a resource-dependent use, and therefore is not allowed in Environmentally Sensitive Habitat Area consistent with Section 30240. Several alternatives have been evaluated, and no other design or siting

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	alternative is feasible that meets the purpose and objectives of the project without requiring impacts to Environmentally Sensitive Habitat Area. However, mitigation measures would minimize adverse environmental effects, including mitigation at 3-to-1 ratio for permanent impacts to jurisdictional areas and mitigation at a 1-to-1 ratio for temporary impacts to jurisdictional areas.
Water Quality ***Coastal Act Section 30230:*** Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreation, scientific, and educational purposes. ***Coastal Act Section 30231:*** The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams. ***Coastal Act Section 30232:*** Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur. ***City of Santa Cruz Policy EQ.2.3:*** Ensure that new development or land uses near surface water and groundwater recharge areas do not degrade water quality.	The project involves replacement of culverts to ensure drainage is functional under the roadways, and impacts to wetlands and creeks may occur. No permanent impacts are anticipated to storm water or groundwater. Additional pavement areas total less than 1 acre and are not anticipated to impact water quality. Permanent impacts to jurisdictional waters from gore paving, rock slope protection, and new foundations for lighting elements and Transportation Management Systems are expected. Impacts would be reduced by restoration and compensatory mitigation at a 3-to-1 ratio for permanent impacts to jurisdictional areas. Temporary construction activity has the potential to generate runoff, which could impact the water quality of nearby creeks. Impacts would be reduced by the application of Standard Specifications, including preparation of a Water Pollution Control Plan and adherence to Best Management Practices. Minimization measures to preserve vegetation

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City of Santa Cruz Policy EQ.3.1: Require site design and erosion control measures in areas subject to erosion hazards or adjacent to streams and wetland areas to minimize grading activities and vegetation removal. ***City of Capitola Policy 6-5:*** The City of Capitola shall, as a condition of new development, ensure that runoff does not significantly impact the water quality of Capitola's creeks and wetlands through increased sedimentation, biochemical degradation, or thermal pollution.	and restore disturbed areas would also reduce potential impacts to water quality. With the implementation of these measures, the project would be consistent with the water quality protection policies of the Coastal Act and local coastal program policies.
Archeological and Paleontological Resources ***Coastal Act Section 30244:*** Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required. ***County of Santa Cruz Policy 5.19.3:*** Development around archaeological resources. Protect archaeological resources from development by restricting improvements and grading activities to portions of the property not containing these resources, where feasible, or by the preservation of the site through project design and/or use restrictions, such as covering the site with earthfill to a depth that ensures the site will not be disturbed by development, as determined by a professional archaeologist. ***City of Santa Cruz Policy CR.1.2:*** Identify sensitive archaeological and paleontological sites early in land-use planning and/or development process so archaeological and paleontological resources can be given consideration during the conceptual design phase of private or public projects. ***City of Capitola Policy 1-3:*** It shall be the policy of the City of Capitola to provide for the protection, preservation, and proper disposition (where necessary) of archaeological, historical, and paleontological resources within the city. This policy shall be implemented in cooperation with the landowners, developers, State Historic Preservation Office, and the University of California, Santa Cruz Archaeological Research Center.	The project would avoid known archaeological sites and is therefore consistent with these policies. In the event of an inadvertent discovery, appropriate protocols would be implemented, including work stoppage, until a qualified archaeologist can evaluate the discovery. Also, no paleontological resources are anticipated because the improvements will take place on existing pavement, shoulder areas, and fill sections where previous soil disturbance has occurred.

List of Technical Studies Bound Separately

- Air Quality, Greenhouse Gas, and Noise Technical Memorandum
- Climate Change Technical Memorandum
- Cultural Resources Screened Undertaking Memorandum
- District Preliminary Geotechnical Report
- Geologic and Seismic Analysis
- Initial Site Assessment
- Location Hydraulic Study
- Natural Environment Study
- Paleontological Identification Report
- Visual Impact Assessment
- Water Quality Assessment Report

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to:

Jason Wilkinson
Environmental Branch Chief
California Department of Transportation, District 5
50 Higuera Street
San Luis Obispo, CA 93401

Or send your request via email to: jason.wilkinson@dot.ca.gov

Please provide the following information in your request:

Santa Cruz 1 Roadside Safety and Drainage Improvements Project
05-SCR-1-8.2/26.0
05-1J960/0518000093