Tier 1—Big Sur Bridge Rail Replacement Program

Monterey County, California
District 5–Mon–1 (PM 28.1/67.9)

and

Tier 2—Garrapata Creek Bridge Rail Replacement Project

Monterey County, California
District 5–Mon–1 (PM 63.0)
EA 05-1H800/Project ID 05-1600-0163
State Clearinghouse Number 2020049027

Final Environmental Impact Report

Prepared by the
State of California Department of Transportation

May 2021

Caltrans

General Information About This Document

What's in this document:
The California Department of Transportation (Caltrans) has prepared this Final Environmental Impact Report, which examines the potential environmental impacts of the alternatives being considered for the proposed project in Monterey County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA), and Caltrans is the lead agency under the California Environmental Quality Act (CEQA). 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, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

The Draft Environmental Impact Report circulated for public review and comment for 52 days between November 25, 2020 and January 15, 2021. Comments received during this period are included in Appendix D.

Additional copies of this document and the related technical studies are available for review at the Caltrans District 5 office located at 50 Higuera Street, San Luis Obispo, California 94301.

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, Environmental Branch Chief, Environmental Management Division, California Department of Transportation, 50 Higuera Street, San Luis Obispo, California 94301; phone 805-540-9165 (Voice), or use the California Relay Service 1-800-735-2929 (TTY), 1-800-735-2929 (Voice), or 711.

State Clearinghouse Number 2020049027
05-Mon-1-PM 28.1/67.9
05-1H800/05-1600-0163

Tier 1 evaluation of projects to rehabilitate historic bridge rails on State Route 1 from post miles 28.1 to 67.9 in Monterey County.

Tier 2 evaluation of bridge rail replacements on the Garrapata Creek Bridge at post mile 63.0 on State Route 1 in Monterey County.

Tier 1 and Tier 2 FINAL ENVIRONMENTAL IMPACT REPORT

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

THE STATE OF CALIFORNIA
Department of Transportation

Timothy M. Gubbins
District 5 Director
California Department of Transportation
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05/07/2021
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Summary

This project is divided into two components:

Tier 1 (Program-level analysis)—The California Department of Transportation (Caltrans) proposes bridge rail replacements on six historic bridges along the Big Sur Coast to bring the facilities up to current traffic safety standards. In addition, all six bridges rails were given a poor rating in the Bridge Inventory Status Report and show various levels of deterioration.

Tier 2 (Project-level analysis)—Caltrans proposes to replace the deteriorated nonstandard concrete baluster bridge rail and approach railing on the Garrapata Creek Bridge (Number 44-0018) on State Route 1 in Monterey County, approximately 11.3 miles south of Carmel-By-The-Sea to ensure the safety and reliability of State Route 1. The Garrapata Creek Bridge structure is eligible for listing on the National Register of Historic Places and is located within the Carmel-San Simeon State Highway Historic District as well as within the Coastal Zone.

National Environmental Policy Act (NEPA) Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 U.S. Code 327 for more than five years, beginning July 1, 2007 and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Barack Obama on July 6, 2012, amended 23 U.S. Code 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 U.S. Code 327 (NEPA Assignment Memorandum of Understanding) with the Federal Highway Administration. The NEPA [National Environmental Policy Act] Assignment Memorandum of Understanding became effective October 1, 2012 and was renewed on December 23, 2016 for a term of five years. In summary, Caltrans continues to assume Federal Highway Administration responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, the Federal Highway Administration assigned, and Caltrans assumed all the U.S. Department of Transportation (U.S. DOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to Caltrans under the 23 U.S. Code 326 Categorical Exclusion Assignment Memorandum of Understanding, projects excluded by definition, and specific project exclusions.

Overview of Project Area

Tier 1—The historic Big Sur arch bridges along State Route 1 in Monterey County contribute to the Carmel-San Simeon State Highway Historic District. The bridges

sit along the Big Sur Coast starting from the south with Big Creek Bridge at post mile 28.1 and ending at Malpaso Creek Bridge at post mile 67.9. The six bridges in the proposed bridge rail replacement program are listed below:

- Big Creek Bridge (1938)—post mile 28.1, Bridge Number 44-0056
- Bixby Creek Bridge (1932)—post mile 59.4, Bridge Number 44-0019
- Rocky Creek Bridge (1932)—post mile 60.0, Bridge Number 44-0036
- Garrapata Creek Bridge (1931)—post mile 63.0, Bridge Number 44-0018
- Granite Canyon Bridge (1932)—post mile 64.3, Bridge Number 44-0012
- Malpaso Creek Bridge (1935)—post mile 67.9, Bridge Number 44-0017

Tier 2—Garrapata Creek Bridge (Number 44-0018) is an open-spandrel arch bridge on State Route 1 in Monterey County, approximately 11.3 miles south of Carmel-By-The-Sea at post mile 63.0. State Route 1 through the project area is a two-lane Designated National Scenic Byway and All-American Road that winds through rural and sparse residential development along the steep slopes of the Big Sur Coast.

Garrapata Creek Bridge was constructed in 1931, widened in 1998 and seismically retrofitted in 1987 and 1998. It is one of seven historic arch bridges along State Route 1 on the Big Sur Coast. The bridge is 285 feet long and consists of 12-foot lanes with zero to 1-foot shoulders. The bridge structure is eligible for listing on the National Register of Historic Places and sits within the Carmel-San Simeon State Highway Historic District as well as within the Coastal Zone.

Garrapata Creek Bridge has nonstandard concrete baluster bridge rails on both sides of the structure. The rail end posts exhibit fine pattern cracking, and the barrier rail posts are severely deteriorated with many small cracks beginning to emerge as well as showing previous impact damage. The project on State Route 1 in Monterey County proposes to replace the existing nonstandard concrete baluster bridge rail and approach railing on Garrapata Creek Bridge. The irreversible damage from pervasive salt-laden fog has accelerated the overall deterioration of concrete and reinforcing steel of the bridge rail, warranting replacement. Caltrans is committed to choosing a new compliant railing that is context sensitive and will be compatible with the historic and visual character of the Big Sur Bridges and within the Carmel-San Simeon Highway Historic District.

Purpose

The purpose of the Tier 1 Big Sur Bridge Rail Replacement Program and Tier 2 Garrapata Creek Bridge Rail Replacement project is to replace the existing nonstandard concrete baluster bridge rails and approach rails with rails that meet current state and federal traffic safety standards to ensure the reliability of State Route 1.

Need

The Tier 1 Big Sur Bridge Rail Replacement Program is needed because the existing rails do not meet current traffic safety standards.

The Tier 2 Garrapata Creek Bridge Rail Replacement project is needed because the existing rails do not meet current traffic safety standards, and as stated in the 2015 Bridge Inspection Report, portions of the existing Garrapata Creek Bridge rails have developed severe cracking caused by deterioration of concrete and reinforcing steel.

The upcoming projects are necessary due to various levels of deterioration of the existing railing on all six bridges, and the railing no longer meets current traffic safety standards. Caltrans Structure Maintenance and Investigations crews inspected all six bridges in 2019, and the bridge rails on all six bridges were given a poor rating in the Bridge Inventory Status Report.

The Manual for Assessing Safety Hardware, which was implemented as an agreement between the Federal Highway Administration and the American Association of State Highway Transportation Officials in 2009 (updated in 2016), sets the standards for highway safety equipment. Newly adopted Manual for Assessing Safety Hardware standards have mandated that all new installations of roadside safety devices on high-speed roadways, including bridge railing, must meet a new higher standard for crash testing for all projects advertised as of December 31, 2019, without exception.

Manual for Assessing Safety Hardware standards dictate both the structural performance as well as the height and width dimensions of new railing. The existing railings are insufficient by current Manual for Assessing Safety Hardware standards for the posted speed limits on this stretch of State Route 1, so it is not possible to accomplish the purpose of the project and replace the existing railing in-kind moving forward. Portions of the existing Garrapata Creek Bridge rail are in an accelerated state of deterioration, including the concrete spalling and exposed steel reinforcing bar. This deterioration may pose a hazard to public health and safety moving forward if allowed to continue unaddressed.

Tiered CEQA Documents

The California Environmental Quality Act (known as CEQA) provides for tiered or program Environmental Impact Reports (California Environmental Quality Act Guideline Sections 15175–15179.5). As the CEQA lead agency for this project, Caltrans has prepared a Tier 1 and Tier 2 program Environmental Impact Report. The program Environmental Impact Report is intended to streamline later environmental review and evaluate to the greatest extent feasible cumulative impacts, growth-inducing impacts, and irreversible significant effects on the environment of subsequent projects. Tiering addresses broad programs and issues related to the entire corridor in the Tier 1 analysis. As specific bridge rail replacement projects within the corridor program are ready for implementation, impacts of those specific actions are evaluated in subsequent Tier 2 studies.

Project Impacts

Table S-1 summarizes potential impacts that would result from each alternative. Detailed discussion and an analysis of project impacts are provided in Chapter 2 of this document. Avoidance, minimization, and mitigation measures are included in Appendix D.

Table S-1 Summary of Potential Impacts from Alternatives

Potential Impact	Build Alternative Tier 1	Build Alternative Tier 2	No-Build Alternative Tier 1 and Tier 2
Land Use—Consistency with the Monterey County General Plan	No impact—Land use would not change along the corridor as a result of the project. The project is consistent with the Monterey County General Plan, the Big Sur Highway 1 Sustainable Transportation Management Plan, and the Big Sur Coast Land Use Plan.	Same as Tier 1.	No change in land use.
Coastal Zone	The project limits are entirely within the Coastal Zone and would require a Coastal Development Permit. The project limits are under the jurisdiction of the County of Monterey but also contain a portion in an area of original California Coastal Commission jurisdiction.	A Coastal Development permit will be required from the Monterey County Local Coastal Program.	No Coastal Development Permit required.
Wild and Scenic Rivers	No impact—There are no wild and scenic rivers near the project.	Same as Tier 1.	No impact.
Parks and Recreational Facilities	Daytime construction noise and construction dust may temporarily disturb Big Sur visitors. There may also be some minor traffic delays during construction.	Same as Tier 1.	No impact.
Farmland and Timberland	No impact—There are no prime agricultural lands or timberlands near the project.	Same as Tier 1.	No impact.
Growth	No impact—The project would not induce growth or increase development.	Same as Tier 1.	No impact.
Community Character and Cohesion	No impact—The project would not affect community housing or community character.	No Impact.	No impact.

Potential Impact	Build Alternative Tier 1	Build Alternative Tier 2	No-Build Alternative Tier 1 and Tier 2
Relocations and Real Property Acquisition—Housing and Business Displacements	No impact—The project would not displace any houses or businesses.	Same as Tier 1.	No impact.
Relocations and Real Property Acquisition—Utility Service Relocation	No impact—The project would not relocate any utilities.	Same as Tier 1.	No impact.
Environmental Justice	No impact—Residents would not be displaced, and there would not be a disproportionate impact on underserved communities.	Same as Tier 1.	No impact.
Utilities and Emergency Services	The Tier 1 projects may require relocation of utilities.	The Tier 2 Garrapata Creek Bridge project will not involve utility relocation. There will be no permanent impacts to utilities and emergency services. Minor temporary traffic delays might occur during construction.	Further degradation of the Big Sur bridge rails could disrupt travel on the State Route 1 corridor, which would negatively impact the movement of emergency services.
Traffic and Transportation/ Pedestrian and Bicycle Facilities	The replacement bridge rails will conform to bicycle height safety standards. The projects may involve temporary traffic impacts during construction.	Same as Tier 1.	No impact.
Visual/Aesthetics	The projects would result in a loss of scenic vistas, substantial reduction of visual quality and character, and loss of visual access to coastal scenic resources.	Same as Tier 1.	No impact.
Cultural Resources	The projects will adversely impact historic bridges as well as a historic district.	The Tier 2 Garrapata Creek Bridge project will result in an adverse effect to a historic resource.	No impact.
Hydrology and Floodplain	There will be no impacts to hydrology or floodplains.	Same as Tier 1.	No impact.
Water Quality and Storm Water Runoff	There will be no permanent impacts to water quality, and temporary impacts will be minimized through implementation of best management practices and measures.	Same as Tier 1.	No impact.
Geology, Soils, Seismicity and Topography	There are no impacts to geology, soils, seismicity, and topography anticipated.	Same as Tier 1.	No impact.

Potential Impact	Build Alternative Tier 1	Build Alternative Tier 2	No-Build Alternative Tier 1 and Tier 2
Paleontology	No impact—Proposed work would not disturb sediments of high paleontological potential.	Same as Tier 1.	No impact.
Hazardous Waste and Materials	Aerially deposited lead, asbestos-containing materials, and lead-containing paint may be encountered during project construction; they are standard hazardous waste issues encountered in roadway construction projects. Hazardous materials would be appropriately handled and disposed of through implementation of standard avoidance and minimization measures.	Same as Tier 1.	No impact.
Air Quality	No long-term air quality impacts are expected.	Same as Tier 1.	No impact.
Noise and Vibration	Construction noise would be short term and intermittent during the construction period. Implementation of minimization measures and Caltrans' Standard Specifications during construction would minimize impacts. No long-term noise impacts are expected.	Same as Tier 1.	No impact.
Energy	No impact—The project is not capacity-increasing and therefore would not increase long-term energy use. Construction-period energy use would be minimized through recycling of materials and implementation of greenhouse gas reduction strategies.	Same as Tier 1.	No impact.
Natural Communities	No impacts to natural communities are anticipated.	Same as Tier 1.	No impact.
Wetlands and Other Waters	No impacts to wetlands, other waters, or riparian areas are anticipated with the current scope of the project.	Same as Tier 1.	No impact.

Potential Impact	Build Alternative Tier 1	Build Alternative Tier 2	No-Build Alternative Tier 1 and Tier 2
Plant Species	No impacts—No special-status plant species were observed during appropriately timed floristic surveys.	Same as Tier 1.	No impact.
Animal Species	No impacts—It is anticipated that work can fully avoid areas with habitat for special-status species.	Same as Tier 1	No impact.
Threatened and Endangered Species	No impacts to threatened and endangered species are anticipated.	Same as Tier 1.	No impact.
Invasive Species	No impact—Areas of temporary disturbance to natural habitats will be stabilized and revegetated to limit the spread of invasive species.	Same as Tier 1.	No impact.
Cumulative Impacts	The project would contribute substantial direct and/or indirect cumulative impacts to the visual resources/ aesthetics in the Big Sur corridor and surrounding areas. Direct and indirect impacts to cultural resources will also contribute to cumulative impacts but will be mitigated below the level of significance.	Same as Tier 1.	No impact.
Wildfire	No impact—Replacement of the bridge rails would ensure the reliability of State Route 1 as an evacuation route in the event of a fire along the Big Sur Coast.	Same as Tier 1.	No impact.
Climate Change	Construction of the project is not expected to locally worsen the effects of climate change.	Same as Tier 1.	No impact.

Coordination with Other Agencies

The following permits are required for this project to move forward:

- The Tier 2 Garrapata Creek Bridge Rail project will require a Coastal Development permit from Monterey County.
- The Tier 1 and Tier 2 projects will both require extensive coordination with the State Historic Preservation Officer to agree upon a finding of adverse effect and a Memorandum of Agreement between the State Historic Preservation Officer and Caltrans.

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act (known by the acronym NEPA). Caltrans is the lead agency under the California Environmental Quality Act (known by the acronym CEQA).

The California Department of Transportation proposes bridge rail replacements on six historic bridges along the Big Sur Coast to bring the facilities up to current standards.

The Tier 2 Garrapata Creek Bridge Rail Replacement project is eligible for federal-aid funding and is currently programmed in the 2020 State Highway Operation and Protection Program funded by the Bridge Rehabilitation Program (20.XX.201.110). The project would begin construction in the 2023/2024 fiscal year and is expected to take about a year complete.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the Tier 1 Big Sur Bridge Rail Replacement Program and Tier 2 Garrapata Creek Bridge Rail Replacement project is to replace the existing nonstandard concrete baluster bridge rails and approach rails with rails that meets current state and federal traffic safety standards. Caltrans will choose a new Manual for Assessing Safety Hardware-compliant railing that is both context sensitive and compatible with the historic and visual character of the Big Sur Bridges and within the Carmel-San Simeon Highway Historic District.

1.2.2 Need

The Tier 1 Big Sur Bridge Rail Replacement Program is needed because the existing rails do not meet current traffic safety standards and are all showing signs of deterioration. The Manual for Assessing Safety Hardware, implemented as an agreement between the Federal Highway Administration and the American Association of State Highway Transportation Officials in 2009 (updated in 2016), sets the standards for highway safety equipment. Newly adopted standards in the Manual for Assessing Safety Hardware have mandated that all new installations of roadside safety devices on high-speed

roadways, including bridge railing, must meet a new higher standard for crash testing for all projects advertised as of December 31, 2019, without exception.

The standards in the Manual for Assessing Safety Hardware dictate both the structural performance as well as the height and width dimensions of new railing. The existing bridge railings are insufficient by current standards in the Manual for Assessing Safety Hardware for the posted speed limits on this stretch of State Route 1; the existing railing cannot be replaced in-kind moving forward.

Also, the upcoming projects are necessary because of the deterioration of the existing railing on all six bridges and the railing no longer meeting current traffic safety standards. Caltrans Structure Maintenance and Investigations crews inspected all six bridges in 2019, and the bridge rails on all six bridges were given a poor rating in the Bridge Inventory Status Report. See Figures 1-1 through 1-7 for photographs of the deterioration on the bridges.

The Tier 2 Garrapata Creek Bridge Rail Replacement project is needed because the existing rails do not meet current state and federal traffic safety standards, and portions of the existing Garrapata Creek Bridge rails have developed severe cracking caused by deterioration of concrete and reinforcing steel.

According to the 2015 Bridge Inspection Report for Garrapata Creek Bridge, portions of the existing rail are in an accelerated state of deterioration, with concrete spalling and exposed steel reinforcing bar (see Figures 1-4 and 1-5). This deterioration may pose a hazard to public health and safety moving forward if allowed to continue unaddressed. Caltrans would choose a new Manual for Assessing Safety Hardware-compliant railing that is both context sensitive and compatible with the historic and visual character of the Big Sur Bridges and within the Carmel-San Simeon Highway Historic District.

Figure 1-1 Photo of Big Creek Bridge Rail Deterioration

Figure 1-2 Photo of Bixby Creek Bridge Rail Deterioration

Figure 1-3 Photo of Rocky Creek Bridge Rail Deterioration

Figure 1-4 Photo of Garrapata Creek Bridge Rail Damage

Figure 1-5 Photo of Garrapata Creek Bridge Rail Deterioration

Figure 1-6 Photo of Granite Canyon Bridge Rail Deterioration

Figure 1-7 Photo of Malpaso Creek Bridge Rail Deterioration

1.3 Project Description

Tier 1

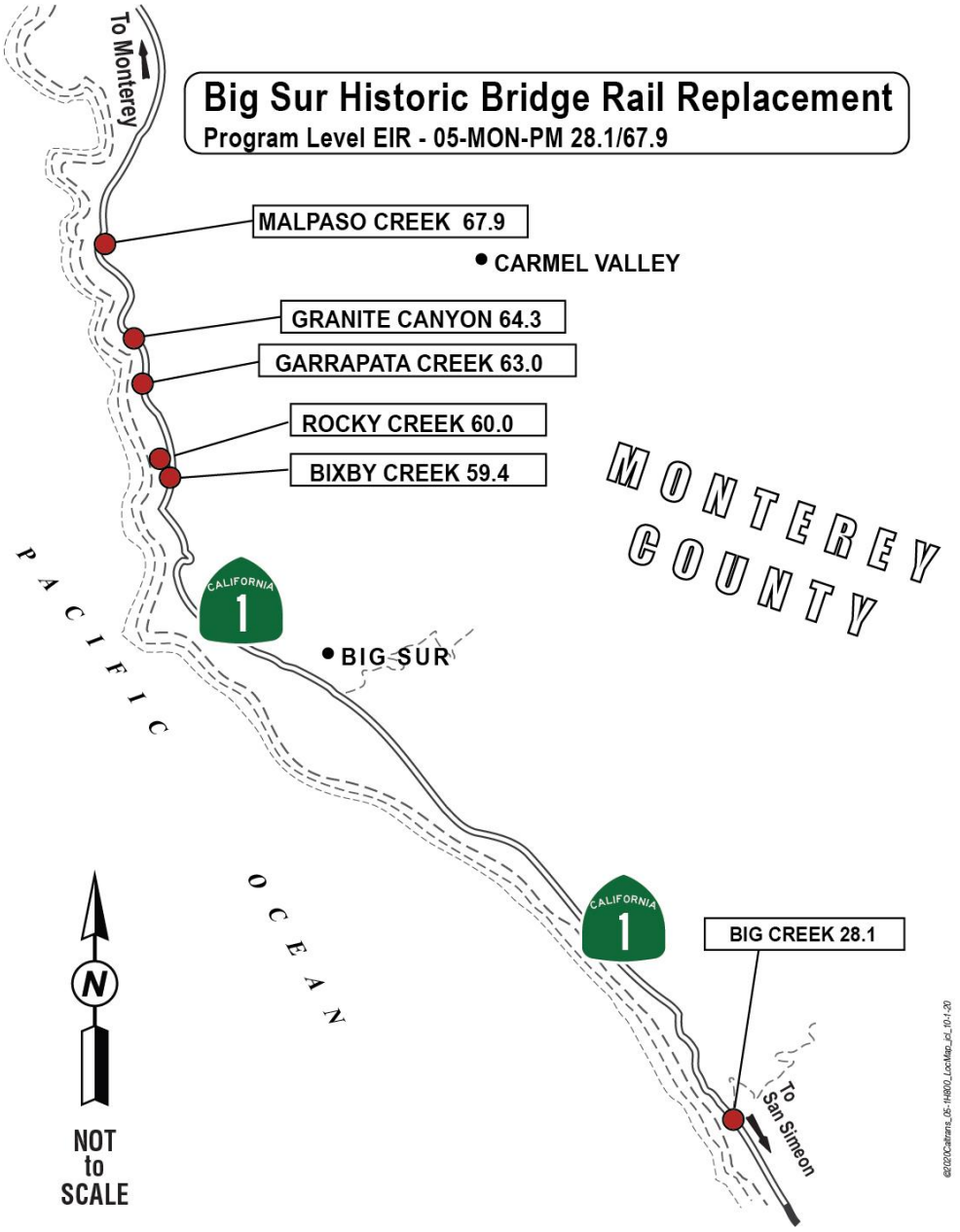
The Big Sur Bridge Rail Replacement Program is a series of six separate projects in which Caltrans would replace deteriorated nonstandard concrete baluster bridge railing for six out of the seven historic reinforced concrete arch bridges along State Route 1 in Monterey County. The original concrete railing would be replaced with a new railing constructed to meet modern safety standards set by the Manual for Assessing Safety Hardware.

Called “the Big Sur Bridges,” these structures all date to the initial construction of State Route 1 in Monterey County in the early 1930s. The Big Sur Bridges impacted by this program are the following:

- Big Creek Bridge (1938)—post mile 28.1, Bridge Number 44-0056
- Bixby Creek Bridge (1932)—post mile 59.4, Bridge Number 44-0019
- Rocky Creek Bridge (1932)—post mile 60.0, Bridge Number 44-0036
- Garrapata Creek Bridge (1931)—post mile 63.0, Bridge Number 44-0018
- Granite Canyon Bridge (1932)—post mile 64.3, Bridge Number 44-0012
- Malpaso Creek Bridge (1935)—post mile 67.9, Bridge Number 44-0017

See Figure 1-8 for the Project Location Map showing the locations of the bridges in Monterey County.

Figure 1-8 Project Location Map



Tier 2

Garrapata Creek Bridge (Number 44-0018) is an open-spandrel arch bridge that was constructed in 1931, widened in 1998 and seismically retrofitted in 1987 and 1998. The bridge sits at post mile 63.0 just south of Carmel in Monterey County and is one of seven historic arch bridges along State Route 1 on the Big Sur Coast. See Figures 1-8 and 1-9 for the Project Location Map and Project Vicinity Map, respectively, showing the location of the Garrapata Bridge in Monterey County. The bridge is 285 feet long and consists of 12-

foot lanes with zero to 1-foot shoulders. See Figure 1-10 for a photograph of its current location and condition.

Figure 1-9 Project Vicinity Map

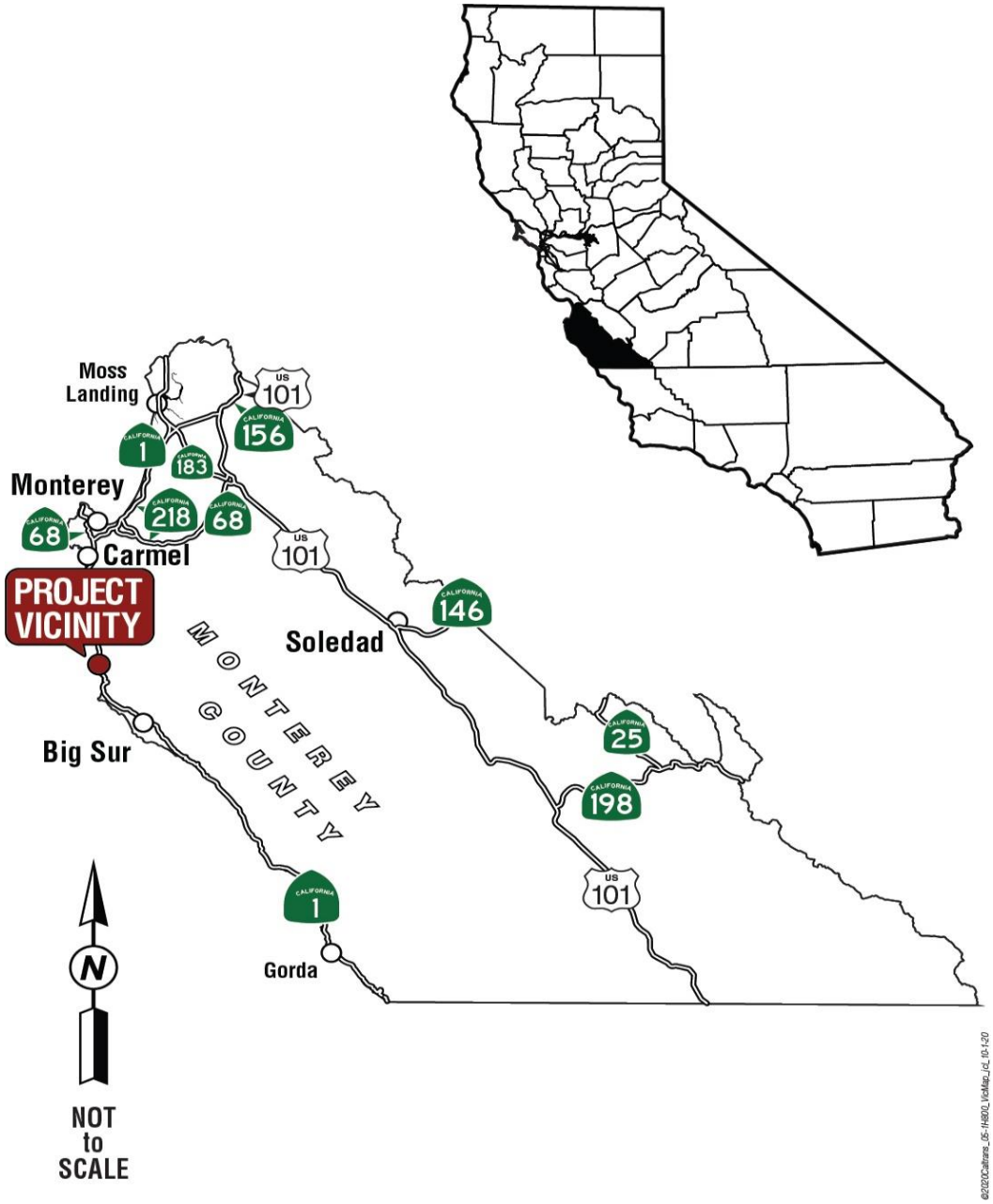


Figure 1-10 Photo of Garrapata Creek Bridge

The structure has nonstandard concrete baluster bridge rails on both sides of the structure. The rail end posts exhibit fine pattern cracking, and the barrier rail posts are severely deteriorated with dozens of spalls (flaking areas) and spalled posts, in addition to previous impact damage.

Construction would remove the existing rail along with the existing 1-foot overhang on each side of the bridge deck and widen the deck 3 inches on each side to place the new standard rails. No work would occur in Garrapata Creek. Debris from removal of the existing rail and overhang would be kept from entering Garrapata Creek by either affixing a debris containment system to falsework hung from the top of the bridge or using an excavator with a bucket designed to catch the debris.

All work would be conducted within the existing state right-of-way, and access below the bridge would be restricted to foot traffic only, so no equipment access roads would be necessary. There are no utility conflicts.

1.4 Project Alternatives

One Build Alternative and a No-Build Alternative are being evaluated for this project. The alternatives under consideration for the project were developed by an interdisciplinary project development team with the goal of adequately addressing the project purpose and need while avoiding and minimizing environmental impacts and reducing project costs.

1.4.1 Build Alternative

This project contains a number of 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. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

The current Build Alternative would involve replacing the existing nonstandard bridge rail and approach railing with a new railing that meets current traffic safety standards. The Build Alternative would involve evaluation of multiple rail types and design variations to implement context sensitive design solutions. A context sensitive design approach uses a collaborative, interdisciplinary decision-making process that involves all stakeholders to develop a transportation facility that fits its physical setting.

1.4.2 No-Build (No-Action) Alternative Tier 1 and Tier 2

Under the No-Build Alternative, the historic Big Sur Bridge rails would not be replaced and would continue to deteriorate. Under the No-Build Alternative, the bridge rails would remain nonstandard.

1.5 Comparison of Alternatives for Tier 1 and Tier 2

The sections below describe how the alternatives would meet the project purpose and need and affect environmental resources in the study area. Chapter 2 of this document provides further discussion regarding the project's potential environmental impacts for the build alternative.

After the public circulation period, all comments were considered, Caltrans selected a preferred alternative and prepared a final determination of the project's effect on the environment. Under the California Environmental

Quality Act, Caltrans will certify that the project complies with the California Environmental Quality Act, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. Caltrans will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, if mitigation measures were included as conditions of project approval, that findings were made, and that a Statement of Overriding Considerations was adopted**.**

Table 1-1 Comparison of Bridge Rail Dimensions

Element	Original Rails in inches	Type 86H in inches	Type C412 in inches
Rail height	42”	42”	42”
Arch window height	19”	14”	13”
Arch window width	10”	6”	5.75”
Baluster width	6”	8”	7.25”
Baluster thickness (depth)	5”	7”	10”
Base height	9”	18”	18”
Base thickness (depth)	10” (base of balusters); 27” (including inside curb)	24”	19”
Height at base of arch windows	12”	18”	20”
Top rail height	9”	10”	6”
Top rail thickness (depth)	12”	15”	17.5”

The new proposed rail designs that meet current Manual for Assessing Safety Hardware crashworthiness standards have several similarities with the original bridge rails: the overall height of the rails is 42 inches, the rails contain arched window openings, and the rails are composed of reinforced concrete. The differences in the rail design are in the dimensions of the balusters, window openings, base, and top rail. Since the open windows in baluster-style rails can be “catch points,” where vehicles’ bumpers can potentially catch on the rails, which could cause or worsen accidents, current safety standards require a higher base height, thickness, and top rail thickness to accommodate modern vehicle designs and speeds. The increased height of the base of the rails and at the base of the window openings provides the rail with the ability to withstand and deflect vehicle impacts. While the lines and shapes are similar in the proposed new rails, the

arched window openings are shorter in height and narrower in width, and the balusters are wider and have greater thickness (depth).

1.6 Identification of a Preferred Alternative

The Project Development Team identified the Build Alternative as the preferred alternative for the Garrapata Creek Tier 2 project. The Build Alternative will replace the existing nonstandard bridge rail and approach railing with a new railing that meets current traffic safety standards. The Build Alternative will evaluate the two considered rail types and design variations to implement context sensitive design solutions. The preferred Build Alternative will appropriately address the purpose and need of the project.

1.7 Alternatives Considered but Eliminated from Further Discussion for the Garrapata Creek Tier 2 project

1.7.1 Two-Foot Widening Alternative

A proposal to widen the shoulders on the Garrapata Creek Bridge by 2 feet on both sides was rejected. Widening to that depth is not feasible at the project location due to engineering constraints, so widening beyond the 6 inches to accommodate the new rail will no longer be considered for the project. The bridge rail replacement would require widening only 3 inches on each side of the Garrapata Creek Bridge structure for the new rail. Widening of the other Tier 1 project locations will be determined during Tier 2 analysis for each location.

1.7.2 Lowering the Speed Limit

The speed limit posted for State Route 1 through the Garrapata Creek Bridge project area is 55 miles per hour. Traffic studies investigated the option of lowering the speed limit through the project area to 45 miles per hour to accommodate an in-kind bridge rail replacement. A speed zone survey for Garrapta Bridge was completed in December 2019. The survey resulted in 85 percent of the surveyed vehicle speeds being above the posted 55 miles per hour speed limit. The analysis determined reducing the speed limit could not be justified and replacing the railing in-kind would not meet current traffic safety standards for the posted speed limit of 55 miles per hour.

1.7.3 New Bridge Alignment

Building a new bridge on a new alignment and leaving the historic structure in place was considered infeasible because of engineering and geographic constraints at the Garrapata Creek Bridge location.

1.8 Permits and Approvals Needed

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

- Coastal Development Permit from the County of Monterey
- Coastal Development Permit from the Coastal Commission for Big Creek Bridge Project (Tier 2)
- Memorandum of Agreement from the State Historic Preservation Office

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. So, there is no further discussion of these issues in this document.

Existing and Future Land Use: The project is consistent with the existing land use of the Big Sur corridor and does not interfere with any future land use plans.

Consistency with State, Regional and Local Plans and Programs: The project is consistent with the Monterey County Big Sur Coast Land Use Plan as well as the Big Sur Coast Highway Management Plan (2006).

Wild and Scenic Rivers: No wild and scenic rivers occur in the project area.

Parks and Recreational Facilities: The project proposes improvements to highway bridges that provide access to various parks and recreational areas along the Big Sur coast. Impacts to parks or recreational facilities are not expected.

Farmland: The County of Monterey zoning map indicates that grazing lands and farmland are adjacent to some of the project locations but are not within the project limits. Impacts to agricultural lands and are not expected.

Timberland: The County of Monterey zoning map indicates that timberland and forest resources are adjacent to some of the project locations but are not within the project limits. Impacts to forest resources are not expected.

Environmental Justice: No minority or low-income populations that would be adversely affected by the project have been identified within or next to the project limits. Therefore, this project is not subject to the provisions of Executive Order 12898 (U.S. Environmental Protection Agency).

Utilities and Emergency Services: The project will have no impact on emergency services. An existing utility pole may be used temporarily during construction of the Tier 2 Garrapata Creek Bridge project for traffic management. There will be no permanent impacts to utilities.

Traffic and Transportation/Pedestrian and Bicycle Facilities: The project may result in minor traffic delays during construction. One-way traffic control

with traffic control signals will be required throughout the construction period. Bicycles will be allowed to share the road with vehicles during all stages of construction. There will be no permanent traffic or transportation impacts.

Growth: The project would not change accessibility or influence growth; therefore, no direct or indirect impacts related to growth would occur.

Community Character and Cohesion: The project will be designed to complement the community character of the Big Sur Coast. The project will improve transportation facilities along State Route 1, ensuring access and cohesion for the community of Big Sur.

Relocations and Real Property Acquisition: There will be no relocations or real property acquisitions as a result of the project.

Hydrology and Floodplain: There will be no effects to the 100-year floodplain because the project is not located within a 100-year base floodplain. The Floodplain Evaluation Report and the Location Hydraulic Study indicate there will be no impacts to hydrology or floodplains.

Air Quality: The project would not add capacity to the highway, so no long-term operational impacts to local air quality would occur as a result of the project. An air quality technical report was prepared for this project. Based on a review of the federal guidelines, the project would qualify for an exemption because it consists of bridge rail reconstruction (with no additional travel lanes); such work is considered exempt from federal conformity analysis. In addition, projects that do not further degrade air quality in the basin are consistent with the Monterey Bay Unified Air Pollution Control District's state air quality attainment goals as stated in its State Implementation Plan (2012-15 Air Quality Management Plan).

Noise: Since no capacity will be added to the highway and the vertical profile of the new bridge will be the same after construction, this would be considered a Type 3 project. There was a technical noise study prepared for this project. It is assumed that local noise levels will be the same after completion of the project as they were before. Long-term noise abatement measures are not anticipated with this project.

Threatened and Endangered Species: The project will have a Section 7 No Effect Finding on all listed threatened and endangered species and critical habitat within the project areas. U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration species lists were obtained for the project vicinity.

Plant Species: The biological study area includes two plant communities: coastal scrub and ruderal/disturbed. No rare plant species and no special-status plant species were found during appropriately timed floristic surveys.

The project is expected to have No Effect on listed plant species and their designated critical habitat.

Invasive Species: Certain invasive/weedy plants occur within the biological study area, and measures will be implemented to avoid/minimize the spread of these species.

Paleontology: The paleontology technical report indicates there is a low probability of encountering or impacting paleontological resources during project construction because project-related earthwork would take place in areas that have been previously disturbed.

Geology and Soils: There would be no impacts to geology or soils as a result of the project. All work is planned on previously disturbed areas within the roadway prism.

Energy: Caltrans incorporates energy efficiency, conservation, and climate change measures into transportation planning, project development, design, operations, and maintenance of transportation facilities, fleets, buildings, and equipment to minimize use of fuel supplies and energy sources and reduce greenhouse gas emissions. The project is not capacity-increasing and therefore the operation would not increase energy use. Energy use would be required during construction but would be minimized whenever possible through recycling of materials and implementation of greenhouse gas reduction strategies. It is expected that the reduction in maintenance activities required to repair the failing bridge concrete would help offset energy use during construction, and therefore the project would not have substantial energy impacts.

Wild and Scenic Rivers: No wild and scenic rivers occur in the project area.

Wetlands and Other Waters: The project will not impact any jurisdictional wetland areas or other waters. All work will occur from above the bridge decks and will not impact any creeks riparian areas below the bridges.

Water Quality and Storm Water Runoff: The water quality technical report prepared for this project indicates the project is not expected to result in long-term impacts to water quality. Temporary impacts to water quality and stormwater runoff during construction are anticipated but will be minimized by incorporating appropriate Best Management Practices. These practices include a Debris Containment Collection Program and a Temporary Concrete Washout Facility that must be located no less than 100 feet from any water body, including Garrapata Creek and the Pacific Ocean.

Hazardous Waste and Materials: The results of the Initial Site Investigation (November 2016) indicate there are no materials containing hazardous waste located within the project limits. No additional hazardous waste studies are required.

2.1 Human Environment

2.1.1 Coastal Zone

Regulatory Setting—Tier 1 and Tier 2

The project has the potential to affect resources protected by the Coastal Zone Management Act of 1972, which is 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 a Coastal Zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are like 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. This project is subject to Monterey County's local coastal program. Local coastal programs contain the ground rules for development and protection of coastal resources in their jurisdiction consistent with the California Coastal Act goals. A Federal Consistency Certification will be needed as well. The Federal Consistency Certification process will start before the final environmental document and be completed to the maximum extent possible during the National Environmental Policy Act process.

Local Coastal Program

The California Coastal Act requires each community in the Coastal Zone to prepare a local coastal program, including a coastal land use plan to protect, maintain and, where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural resources. A local coastal program consists of land use plans, zoning ordinances, and zoning district maps. Local coastal programs must contain a specific public access component to ensure maximum public access to the coast and ensure that public recreation areas are provided.

Affected Environment

The Tier 1 project area is within both original jurisdiction by the California Coastal Commission as well as the jurisdiction of the Monterey County local coastal program.

The Tier 2 Garrapata Creek Bridge project is in the Monterey County local coastal program jurisdiction. The Monterey County local coastal program's Big Sur Coast Land Use Plan was adopted by the Monterey County Board of Supervisors in 1986 and is currently being updated. The Land Use Plan was created to implement the California Coastal Act of 1976, so that all development harmonizes with and is subordinate to the wild and natural character of the land. The plan covers approximately 70 miles from Carmel in the north to the Monterey/San Luis Obispo County line in the south. The Big Sur Coast is renowned for its scenic beauty, history, ecology, recreational opportunities, and the roadway and bridges. Skirting the Pacific Ocean, the highway affords dramatic views of the rugged coast and redwood forest. The corridor is designated an All-American Road.

As the state department responsible for the transportation infrastructure in California, Caltrans is often involved in projects in the Coastal Zone. Consequently, such projects must satisfy the requirements of Caltrans' mission and regulations as well as the policies of the Coastal Act. In designing projects, Caltrans is guided by a rigorous and comprehensive body of specifications set forth in the Highway Design Manual, which is supplemented by an array of documents published by the American Association of State Highway and Transportation Officials and the Federal Highway Administration.

Bridge railings and barriers in the Coastal Zone have presented a distinct set of challenges, largely because the visual protections established by the Coastal Act reach beyond the structural considerations that have traditionally driven Caltrans design practices. These challenges led to the development of Caltrans' and the California Coastal Commission's *Bridge Rails and Barriers: A Reference Guide for Transportation Projects in the Coastal Zone*. This guide was prepared as a tool to help stakeholders and participants in bridge and railing design to better understand options available for potentially successful application in future projects within the Coastal Zone.

The Big Sur Coast Land Use Plan and the Monterey County Local Coastal Program aim to achieve the following larger goals of the Coastal Act:

- Protect, maintain and, where feasible, enhance and restore the overall quality of the Coastal Zone environment and its natural and human-made resources.

- Ensure orderly, balanced use and conservation of Coastal Zone resources, considering the social and economic needs of the people of the state.
- Maximize public access to and along the coast and public recreational opportunities in the Coastal Zone, consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Ensure priority for coastal-dependent development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the Coastal Zone.

Environmental Consequences

Build Alternative—Tiers 1 and 2

Table 2-1 summarizes an analysis of the consistency of the project with policies of Chapter 3 of the California Coastal Act and the Big Sur Coast Land Use Plan.

Overall, the goals of the project are consistent with the goals of the Coastal Act, as achieved through the policies of the Big Sur Coast Land Use Plan and the Monterey County Local Coastal Program. Unavoidable impacts to historic and visual resources are expected, but these impacts would be minimized to the greatest extent possible using context sensitive solutions and collaborative planning and design efforts involving Monterey County, the California Coastal Commission, the State Historic Preservation Officer, and Caltrans.

No-Build Alternative

Under the No-Build Alternative, existing conditions would remain and no impacts to the Coastal Zone would occur.

Table 2-1 California Coastal Act and Big Sur Coast Land Use Plan Policy Consistency Summary Table (Tier 1 Impacts)

California Coastal Act Chapter 3 and Big Sur Coast Land Use Plan Policy Area	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	No prime agricultural lands or timberlands are located within the project locations. Agricultural grazing lands are next to some 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

California Coastal Act Chapter 3 and Big Sur Coast Land Use Plan Policy Area	Policy Consistency Analysis
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. ***Big Sur Coast Land Use Plan 3.6:*** Agriculture, especially grazing, is a preferred use of coastal lands. In locations where grazing has been a traditional use, it should be retained and encouraged both under private and public ownership.	Act or Big Sur Coast Land Use Plan policies related to agricultural resources would result.
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 land forms, 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. ***Big Sur Coast Land Use Plan 3.2:*** New development should be subordinate and blend with its environment, using materials or colors that will achieve that effect. Where necessary, appropriate modifications will be required for siting, structural design, size, shape, color, textures, building materials, access, and screening. ***Big Sur Coast Land Use Plan 4.1.2:*** A principal objective of management, maintenance, and construction activities within the Highway 1 right-of-	The design of the replacement bridge rails would be consistent with the character of the existing bridges and complement the visual character of the rural coastal setting. The replacement bridge rails would be the same height, but the rail openings would have slightly different dimensions than the existing rail openings. The new rails would be designed to match the existing visual character of the bridges and the corridor, but they would not be an exact in-kind replacement. The community would be involved with the design of all aesthetic project features to minimize the visual impact of the replacement bridge rails. An open-style bridge rail that minimizes view blockage would be used, and it would use the smallest end blocks possible that meet safety needs. The 2 proposed replacement bridge rail design options are tailored to replicate the existing bridge rails as closely as possible. The replacement rails will include aesthetic treatments to make the visual changes to the bridge as minimal and unnoticeable as possible while still adhering to safety standards and environmental constraints. With the inclusion of mitigation and minimization measures, the project would not

California Coastal Act Chapter 3 and Big Sur Coast Land Use Plan Policy Area	Policy Consistency Analysis
way shall be to maintain the highest possible standard of visual beauty and interest. ***Big Sur Coast Land Use Plan 4.1.3:*** The County requests that an overall design theme for the construction and appearance of improvements within the Highway 1 right-of-way be developed by Caltrans in cooperation with the State Department of Parks and Recreation, the U.S. Forest Service and local citizens. Design criteria shall apply to roadway signs, fences and railings, access area improvements, bridges, restrooms, trash receptacles, etc. The objective of such criteria shall be to ensure that all improvements are inconspicuous and are in harmony with the rustic natural setting of the Big Sur Coast. The special report by local citizens entitled *Design Standards for the Big Sur Highway* on file at the County Planning Department, should serve as a guide and point of departure for Caltrans and other public agencies in developing a design theme for Highway 1 and in making improvements within the State right-of-way. ***Big Sur Coast Highway Management Plan, Guidelines for Corridor Aesthetics:*** Historic Bridges: Should any structural modification be identified as a critical need, the visual design of historic bridges should be changed as little as possible. Necessary modifications should be designed visually as if these features had been incorporated in the bridges as originally constructed. Bridge rails on historic bridges should be repaired or reconstructed to replicate the original rails as closely as possible. Application of alternative design options for bridge rail on new structures, such as bridges and side-hill viaducts should be thoroughly explored. Attributes for alternative design should consider: an aesthetically complete design that meets safety requirements for all users (i.e., motorists, cyclists, and pedestrians); a design that allows views through the rail (a feature of the historic open balustrade rail); an overall appearance that shares a family resemblance with the historic open balustrade rail, thus creating a sense of continuity among the historic bridges and new bridges. End treatments for guardrail and bridge rails are also important visual elements. Where possible, barriers should be terminated with buried end sections, such as an adjacent slope or an earthen berm. The height of berms used for buried end	conflict with visual resources and community character policies in the Coastal Act, Big Sur Coast Land Use Plan or Big Sur Coast Highway Management Plan.

California Coastal Act Chapter 3 and Big Sur Coast Land Use Plan Policy Area	Policy Consistency Analysis
sections must not exceed the height of the rail. Alternative end treatments such as barrels or crash cushions should be avoided unless site-specific conditions require them.	
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. ***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. ***Big Sur Coast Land Use Plan 6.1.3:*** The rights of access to the shoreline, public lands, and along the coast, and opportunities for recreational hiking access, shall be protected, encouraged and enhanced.	The project would not conflict with the Coastal Act or Big Sur Coast Land Use Plan policies relating to public access and recreation. The project would improve coastal access by increasing roadway reliability, efficiency, and safety.
Cultural 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. ***Big Sur Coast Land Use Plan 3.10:*** Designated historical sites shall be protected through zoning and other suitable regulatory means to ensure that new development shall be compatible with existing historical resources to maintain the special values and unique character of the historic properties.	The replacement bridge rails would constitute an adverse effect to the historic structures. Mitigation and minimization measures for the Tier 1 bridges will include context sensitive bridge rail design. Detailed mitigation measures for the project are included in the Memorandum of Agreement between Caltrans and the State Historic Preservation Officer.

California Coastal Act Chapter 3 and Big Sur Coast Land Use Plan Policy Area	Policy Consistency Analysis
Biological Resources ***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. ***Big Sur Coast Land Use Plan 3.3.2:*** Development, including vegetation removal, excavation, grading, filing, and the construction of roads and structures, shall not be permitted in the environmentally sensitive habitat areas if it results in any potential disruption of habitat value. Where private or public development is proposed, in documented or expected locations of environmentally sensitive habitats, field surveys by qualified individuals or agencies shall be made in order to determine precise locations of the habitat and to recommend mitigating measures to ensure its protection.	Following construction, it is anticipated that all areas of temporary disturbance to natural habitats would be stabilized and revegetated. The Federal Endangered Species Act Section 7 effects determination is that, with implementation of the included avoidance and minimization measures, the project would have no effect on federally listed species or designated critical habitat. Avoidance and minimization of ground disturbance due to project-related actions would be achieved with the establishment of Environmentally Sensitive Habitat Areas. The Environmentally Sensitive Habitat Areas would ensure that unnecessary disturbance does not occur outside of the project limits. Environmentally Sensitive Habitat Area limits would be shown on the final layout plans. Biological surveys were conducted at all six Tier 1 bridge locations on July 12, July 19, July 27, August 3, and August 10 in 2018 and on July 18, July 30, August 7, and August 21 in 2019.

Avoidance, Minimization, and/or Mitigation Measures

Though the goals of the Tier 1 Big Sur Historic Bridge Rail Replacement Program and the Tier 2 Garrapata Creek Bridge Rail Replacement project are consistent with Coastal Act policies, project construction would create temporary and permanent impacts to protected resources in the Coastal Zone. Implementation of avoidance, minimization, and mitigation measures would reduce impacts to coastal resources to the maximum extent feasible to ensure that the project would remain consistent with coastal resource protection goals.

2.1.2 Visual/Aesthetics

Regulatory Setting—Tier 1 and Tier 2

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (California Public Resources Code Section 21001[b]).

The Monterey County Land Use Plan—Local Coastal Plan provides for the preservation of the incomparable beauty of the Big Sur area. It specifies that all development must harmonize with and be subordinate to the wild and natural character of the land, and should remain within the small-scale, rural values of the area, rather than introduce new or conflicting uses. It is the County's objective to preserve the Big Sur Coast scenic resources in perpetuity and to promote the restoration of the natural beauty of visually degraded areas wherever possible. The County's Viewshed Policy essentially prohibits all new construction if visible from State Route 1, except for road capacity, safety, and aesthetic improvements, provided such projects enhance the highway's aesthetic beauty and protect its primary function as a two-lane recreation route, include walking and bicycle trails wherever feasible, and maintain the highest possible standard of visual beauty and interest.

The Big Sur Coast Highway Management Plan (2004) is a collaborative document that outlines a Corridor Management Plan for the Big Sur Highway and a series of Management Guidelines that address corridor aesthetics, landside management and storm damage response, and vegetation management. The aim of the Coast Highway Management Plan is to foster a corridor-wide understanding of the aesthetic values along the Big Sur coast and to provide guidance in managing scenic resources while continuing to operate the highway in a safe and efficient manner. The plan identifies the main areas of local concern regarding the corridor's visual setting. In developing the Coast Highway Management Plan, the Scenic and Habitat Working Group, composed of local citizens and agency representatives, summarized the following stakeholder interests:

- The essential character of State Route 1 is that of a functional highway that passes through a unique and spectacular landscape.
- The true historic character of the corridor is worthy of preservation. Leaving the corridor essentially as it is would better honor this character than converting it to a sanitized scenic highway experience or theme park.
- The highway is not homogeneous in character; it passes through a series of different environments, each with distinct characteristics and individual themes.
- Uniformity of roadside features should be avoided, as it would conflict with recognizing the varied and distinct characteristics along the corridor.

- The needs of one stakeholder group should not be disproportionate to others. Accommodating needs of visitors should not outweigh the desires and needs of the local community for whom the highway is a central feature of daily life, and vice versa.
- For decades, the local community has accepted and encouraged a measure of eclecticism and expressions of individuality and craft in features such as mailboxes, private signs, and small structures.
- Although diversity in roadside features is valued, increasing clutter is a serious concern. This is most evidenced in commentary regarding unnecessary, redundant, or poorly designed signs and visually intrusive overhead utilities.

The *Guidelines for Corridor Aesthetics* element of the Coast Highway Management Plan specifically addresses the construction of new bridges (and major new structures such as rock sheds) as follows:

- Any new bridges along this coast must complement the architecturally significant historic bridges in the corridor. These bridges are internationally recognized for their architectural style and engineering excellence and for the continuity established by the use of a common design theme: the concrete arch spandrel. The character of these bridges is a major contributor to the historic character of the highway corridor. The intent of these guidelines is to ensure that new bridges complement this character by balancing respect for historic design themes with the best of contemporary structural expression.
- Any new bridges should be authentic in design, rather than emulate something they are not, i.e., historic bridges. At the same time, structural designers should recognize historic bridges for the quality of aesthetic and engineering excellence they represent and strive to match or exceed this quality in contemporary terms.
- In the interests of overall continuity, designers should first consider bridge types that are in the same visual family as the historic bridges: arched or arch-like main span structures below deck level and made of concrete.
- In designing the alignment of a new bridge, designers should allow the roadway's geometry (plan and profile) to flow smoothly over the bridge, not necessarily limiting the alignment to a tangent (or straight) geometry.
- To maintain the visual continuity of the existing roadway, the width of new bridges should match the width of the approaching roadways, including shoulders, as closely as possible. As with roadway shoulder widths, the desired aesthetic for structures would support the concept for a 32-foot roadbed, subject to site-specific considerations and with consideration for appropriate exceptions from the 40-foot standard.

- New bridges must include an appropriate rail for safety of motorists, cyclists, and pedestrians; the rail type should be visually compatible with the open concrete balustrade rail seen on historic bridges.

The *Guidelines for Corridor Aesthetics* element of the Coast Highway Management Plan also outlines rehabilitation of Historic Bridges:

> The concrete arch bridges along Highway 1 are important features of the Carmel-San Simeon Highway Historic District and have been found eligible for listing in the National Register of Historic Places. These bridges, individually and as a cohesive group, are recognized internationally for their aesthetic qualities and engineering design excellence. However, the structures, now over 60 years old, require ongoing maintenance, repairs, and occasional major upgrades.
>
> - Should any structural modification be identified as a critical need (such as the seismic retrofit program in the 1990s), the visual design of historic bridges should be changed as little as possible. Necessary modifications should be designed visually as if these features had been incorporated in the bridges as originally constructed.
>
> - Bridge rails on historic bridges should be repaired or reconstructed to replicate the original rails as closely as possible.

The *Roadway Protection Systems* section of the Guidelines for Corridor Aesthetics states that “Preference for type and material selection on protective systems (e.g., rockfall protection) would be given to those that are visually subordinate to the landscape, to the extent possible. Field installation details and the industrial design of system components would also emphasize visual compatibility. For larger protective structures such as rock sheds, recommendations on aesthetic design for bridges should feature aesthetic and engineering design excellence.”

Affected Environment—Tier 1 and Tier 2

State Route 1 throughout much of the Big Sur region is a two-lane highway with 12-foot lanes. Shoulder widths vary from zero to 8 feet, with most of them 4 feet or less. The existing highway is mostly asphalt lanes and shoulders and is a two-lane conventional highway until reaching Carmel.

State Route 1 in Monterey County serves local and interregional traffic that includes mostly recreational motorists, local commuters, and limited commercial users. In Monterey County, State Route 1 is designated as an Official State Scenic Highway, a National Scenic Byway, and an All-American Road.

State Route 1 passes through several landscape types through Big Sur. The landform of the region is generally characterized by steep slopes and ravines

forming a series of ridgelines and valleys as the mountains rise from the Pacific Ocean. The topography of the region is generally steeper in the southern section and allows more opportunity for long-range vistas toward the west. The topography supports a mostly curvilinear roadway that produces views for the highway traveler ranging from close-in views of the inland slopes to mid-range coastline views and wide-open panoramas.

Surface water is an important visual element throughout the region. The Pacific Ocean is visible throughout much of the route and can be seen from many of the project locations. Numerous seasonal streams run throughout the area, though many are blocked from view and not noticeable from a moving vehicle.

Throughout the region, vegetation is another component of visual character. State Route 1 passes through a variety of plant communities and vegetative types within the project limits. In general, creeks and drainages hold stands of sycamore, redwood, cottonwood and willows. Oak and other native trees are found mostly at the upper elevations along with coastal chaparral. Although native plant communities are the most visually prevalent, exotic plants such as pampas grass have established themselves along the highway corridor. Landscape planting is generally associated with the scattered residential and commercial development along the highway and is most visible along the northern end of the project limits, in the Big Sur village area, and in Carmel.

Along the highway, the main developments are the roadway itself and related features, occasional roadside home sites and tourist-oriented businesses. Along the southern end of Big Sur, built-developments have a low to moderate visual presence in the landscape. In general, the scale and frequency of structures and other built amenities throughout this area, though visible, do not dominate the views when seen in the context of the overall landscape. The northern section of Big Sur is the most developed. Residential uses are the main development, though some tourist-oriented businesses are part of the view. Overhead utilities and roadside signs are visible elements along the route. Due to the topography throughout much of the region, cut slopes are associated with the highway and can be seen often from the road.

State Route 1 has long been recognized for its scenic qualities, and the state and national scenic designations indicate the importance of the aesthetic character of this highway. Monterey County planning policies emphasize the protection of visual resources along State Route 1 and underscore the concern and sensitivity regarding aesthetic issues along the route. The project locations are all within the Coastal Zone, which places an emphasis on visual quality preservation. In addition, the *Coast Highway Management Plan* (Caltrans 2004), a comprehensive planning document being developed with extensive community input, includes a section on identifying and preserving the scenic qualities of the route. The local community has a history

of active participation in projects involving potential changes to the visual environment.

The visual experience of traveling the Big Sur coast is influenced by a variety of historic features. Seven historic bridges, built in the 1930s and important examples of the engineering technology and aesthetic preference of the era, are found along a 41-mile stretch of the coast highway. These bridges share a common design; each is an open-spandrel concrete arch structure with open bridge rail. Other historic elements seen by the highway traveler include parapet walls, culvert headwalls, and drinking fountains.

In addition to the historic structures, many other built elements contribute to the visual character of the highway experience. Bridge rails are noticeable components of both historic and non-historic structures. The railings of the coastal bridges are important in their ability to define the architectural style of structures, as well as their potential effect on ocean views. Open-style railing is associated with older structures and design, while the railing constructed since the 1970s has typically been solid.

There is no single design style evident in the highway features (such as bridges, rails, barriers, walls, drainage inlets and down drains, signage, and other elements) along the Big Sur corridor. Rather, the style and variety of features reflect current engineering standards and funding availability rather than a uniform aesthetic theme. There is a tendency toward natural material construction and finishes such as wood and stone. Metal finishes, where used, are often weathered in appearance.

The existing visual quality of State Route 1 in each of the project locations is high, due mainly to the historic bridges, the presence of natural vegetation, topographic relief, ocean views, and the minimal visibility of off-highway built elements.

The main affected viewers are those who travel the highway and are in the immediate vicinity of the project locations. Viewers through this area generally have high expectations regarding scenic quality and the state and federal scenic designations further heighten viewers' sensitivity along this route.

Environmental Consequences—Tier 1 and Tier 2

Both the Big Sur Bridge Rail Replacement Program (Tier 1) and the Garrapata Bridge Rail Replacement project (Tier 2) would result in a loss of scenic vistas, substantial reduction of visual quality and character, and loss of visual access to coastal scenic resources.

Scenic vistas are defined as panoramic views that have high quality compositional and picturesque value. Scenic vistas throughout the project area include expansive mid-to-distant views of the Pacific Ocean, the rocky shoreline, dramatic topography and hillsides, native vegetative patterns, and

undeveloped landscapes. The historic bridges are also important contributors to the scenic vistas throughout the area.

The most noticeable aspect of the projects would be new bridge rails. Although the specific design of each of the bridge rails has not been determined at this time, current safety standards require that the new railing would have smaller openings and less of a “see-through” appearance. Other potential visual changes associated with the projects may include an increase in paved surfaces, grading and earthwork, new taller and longer guardrail and concrete anchor blocks adjacent to the bridges, change from wooden posts to metal posts, and vegetation removal.

Many of these proposed elements would block or reduce visual access to coastal scenic vistas and scenic resources as seen from State Route 1, an Officially Designated State Scenic Highway and National Scenic byway.

The existing visual quality and character of the Big Sur Coast is based to a large degree on its rugged topography and coastline, sweeping ocean views, historic structure, undeveloped setting, and native vegetation patterns. The highway itself reinforces the overall rugged and rural character because of its curvilinear alignment and generally narrow appearance.

Local, state and federal planning documents base the high visual quality of this route mostly on the striking views of the ocean, the dramatic topography, the native vegetative patterns, and the relatively natural character of the roadside environment. Within the project limits, each of the bridges is historic and an iconic scenic feature of the California coast.

The projects would change the visual character at each of the locations. Loss of these important architectural elements would fundamentally alter the visual experience of traveling the Big Sur Coast along State Route 1. In addition, the overall effect of these changes would be a more engineered looking, slightly larger scale, more contemporary highway facility.

The following photos (Figures 1-11 through 1-15) show the existing railing on the Garrapata Creek Bridge and proposed railing types: Type C412 and Type 86.

Figure 1-11 Photo of Existing Garrapata Creek Bridge Rail

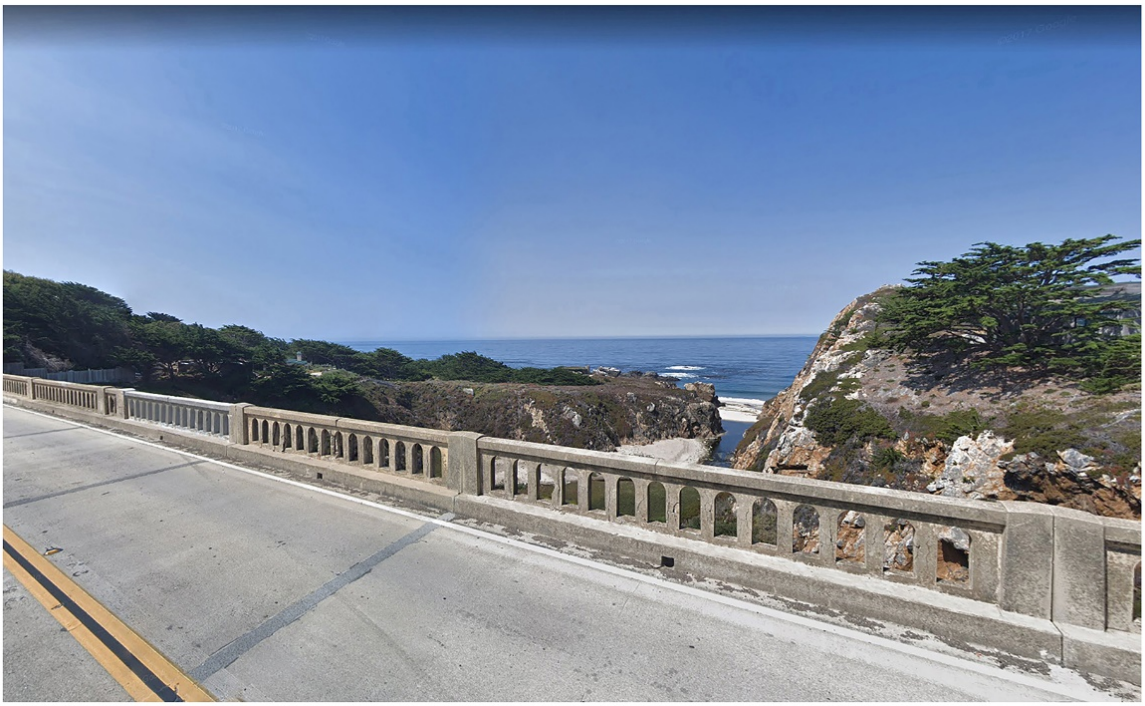


Figure 1-12 Photo Simulation of Barrier Type C412

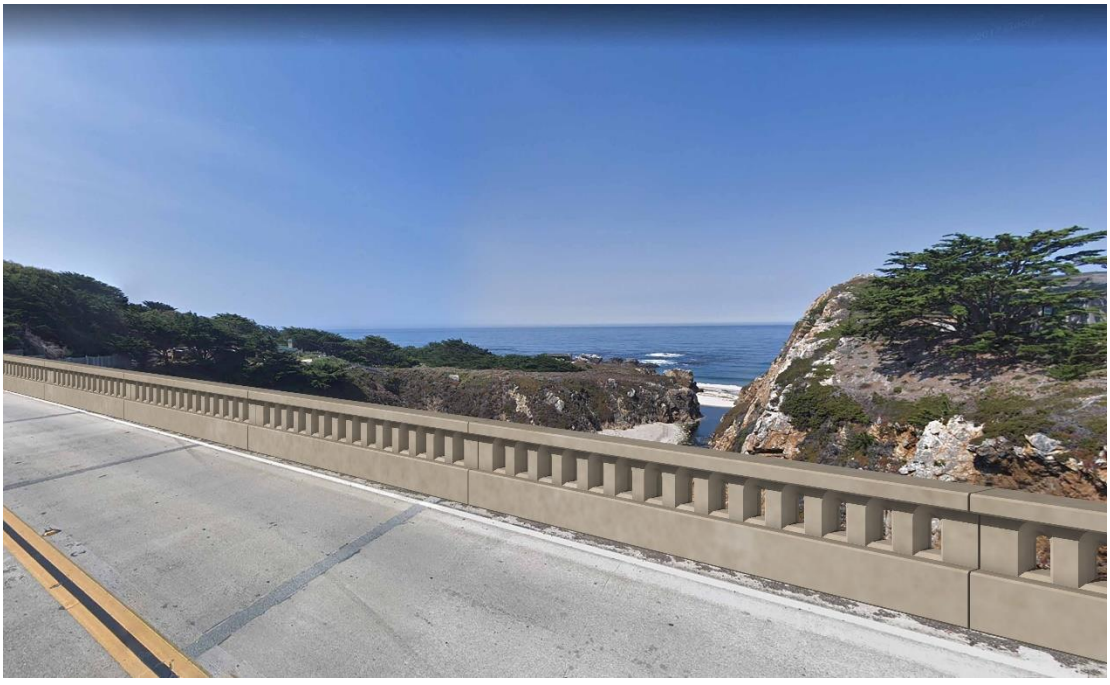


Figure 1-13 Photo Simulation of Barrier Type C412 (front view)

Figure 1-14 Photo Simulation of Barrier Type 86

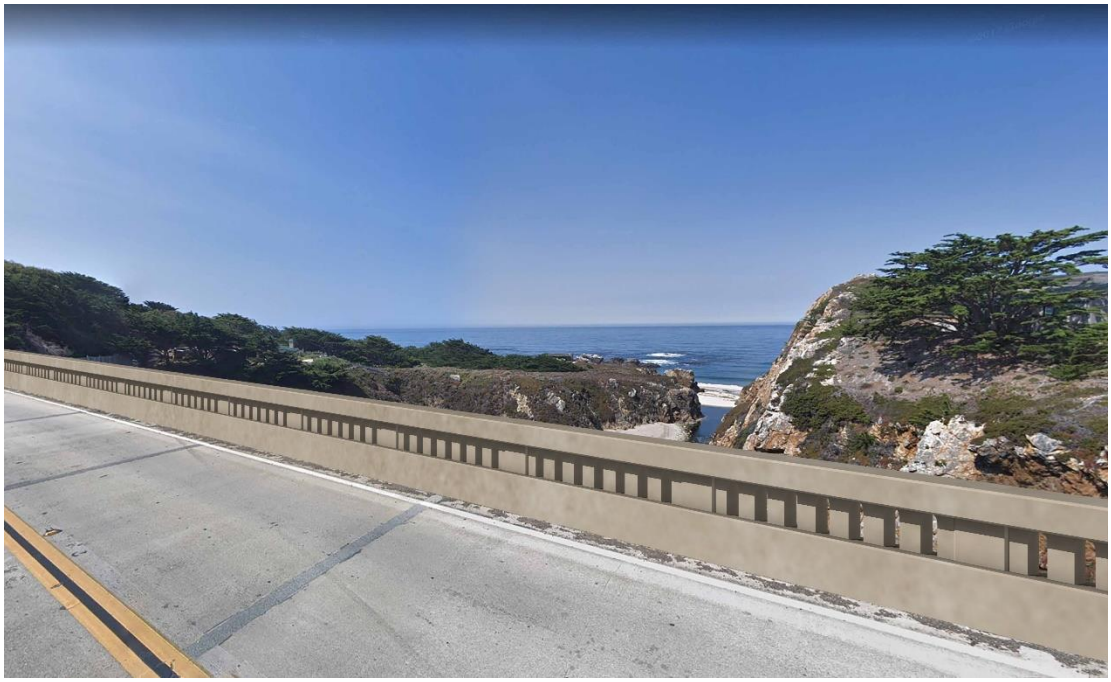


Figure 1-15 Photo Simulation of Barrier Type 86 (front view)

Avoidance, Minimization, and/or Mitigation Measures (Tier 1 and Tier 2)

Based on visual analysis and review of coastal planning policies, it was found that the existing high visual quality of the area is mostly due to the following:

- Visual access to historic structures and roadside elements.
- Exaggerated topographic relief.
- Dramatic vistas of the Pacific Ocean.
- Minimal visual encroachment of constructed elements.
- Harmonious visual pattern of the diverse native vegetation on the hills and ground plane.
- Combination of alternating distant vistas and narrowing view caused by undulating landform.

To maintain these visual quality elements and decrease potential negative visual impacts caused by the project, the following actions are recommended:

1. Involve the community in the design of all aesthetic project features.
2. Use an open-style bridge rail that minimizes view blockage.
3. Use the smallest end blocks possible that meet safety needs.
4. Use finish colors and textures that minimize reflectivity and glare.

5. Re-contour all disturbed areas and construction access roads to a natural appearance.
6. Vegetate all stabilized soil areas with native shrubs and grasses as appropriate.
7. Bury all over-side drains and inlet structures or hide them from view to the greatest extent possible. Where unavoidably exposed to view, color the pipes to reduce noticeability, and dull the gloss of the finish.
8. Where metal beam guardrail or metal end treatments are required, use measures to reduce reflectivity of the metal components.

2.1.3 Cultural Resources

Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include the following.

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council on Historic Preservation’s regulations, 36 Code of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration’s responsibilities under the Programmatic Agreement have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 U.S. Code 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources

Code Section 5024.1 established the California Register of Historical Resources and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the California Register of Historic Resources and, therefore, a historical resource. Historical resources are defined in Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 added the term "tribal cultural resources" to the California Environmental Quality Act, and Assembly Bill 52 is commonly referenced instead of the California Environmental Quality Act when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historical Resources or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in Public Resources Code Section 21083.2.

Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register of Historic Places or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with Public Resources Code Section 5024 are outlined in a Memorandum of Understanding between Caltrans and the State Historic Preservation Officer, effective January 1, 2015. [The Memorandum of Understanding is located on the Caltrans Standard Environmental Reference at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf.] For most federal-aid projects on the State Highway System, compliance with the Section 106 Programmatic Agreement will satisfy the requirements of Public Resources Code Section 5024.

Affected Environment

A Historic Property Survey Report was completed for both Tier 1 and Tier 2 project impacts on October 1, 2020.

Tier 1 Analysis

The Big Sur Bridge Rail Replacement Program projects are a series of six separate projects in which Caltrans proposes to replace deteriorated nonstandard concrete baluster bridge rails for six out of the seven historic reinforced concrete arch bridges along State Route 1 in Monterey County. The original concrete railing will be replaced with a new railing constructed to meet modern safety standards set by the Manual for Assessing Safety

Hardware. Called “the Big Sur Bridges,” these structures all date to the initial construction of State Route 1 in Monterey County in the early 1930s. The Big Sur Bridges impacted by this program include the following:

- Big Creek Bridge (1938)—post mile 28.1, Bridge Number 44-0056
- Bixby Creek Bridge (1932)—post mile 59.4, Bridge Number 44-0019
- Rocky Creek Bridge (1932)—post mile 60.0, Bridge Number 44-0036
- Garrapata Creek Bridge (1931)—post mile 63.0, Bridge Number 44-0018
- Granite Canyon Bridge (1932)—post mile 64.3, Bridge Number 44-0012
- Malpaso Creek Bridge (1935)—post mile 67.9, Bridge Number 44-0017

In addition to being individually eligible for the National Register of Historic Places and the California Register of Historic Resources, the Big Sur Bridges are all contributing resources within the Carmel-San Simeon Highway Historic District, an 80-mile-long discontinuous historic district composed of 241 original rubble stone masonry highway features as well as seven concrete arch bridges (these include the six listed above in addition to the Wildcat Creek Bridge (Bridge Number 44 0016). (Note: Because the Wildcat Creek Bridge is the only example of a reinforced concrete close-spandrel arch bridge within the district and it includes solid railing with a smooth cap, it is not included in the bridge rail replacement program at this time.)

To identify known historic properties for this project, Caltrans consulted the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, the Caltrans Historic Bridge Inventory, and the Caltrans Cultural Resources Database. The Caltrans Historic Bridge Inventory shows that all six bridges to be impacted by the Big Sur Bridge Rail Replacement Program have been previously determined eligible for the National Register of Historic Places and California Register of Historical Resources. These resources are all individually eligible and are contributing resources to the Carmel-San Simeon Highway Historic District.

In accordance with the Section 106 Programmatic Agreement Stipulation VIII.A, the Area of Potential Effects for the specific projects will be established in consultation with appropriately qualified District 5 Caltrans Professionally Qualified Staff and the Caltrans Project Manager assigned to each specific project moving forward. The Area of Potential Effects maps will be provided in the most appropriate specific technical study, figure or attached directly to the Tier 2 (project-specific) document.

The Area of Potential Effects generally for each project will include, at minimum, the entirety of the Carmel-San Simeon Highway Historic District, the entirety of each specific bridge structure to be impacted, and any staging or additional work areas proposed. The project-specific Area of Potential

Effects maps will be developed along with the Tier 2 documents as those projects are developed and more specific information is available.

Tier 2 Analysis

Archaeology—An archaeological survey was done in the project Area of Potential Effects in 2018 as part of another project (05-1H460), a repair project to address corrosion of the Garrapata Creek Bridge through the use of the Electrochemical Chloride Extraction process. The Area of Potential Effects for this past Electrochemical Chloride Extraction project is the same as the Area of Potential Effects for the current bridge rail replacement project. A thorough survey of the Area of Potential Effects was done in 2018 with negative results for archaeological resources within the Area of Potential Effects. One archaeological resource, known as CT-2 (a bedrock mortar), lies outside the Area of Potential Effects, but due to the topography and distance from proposed work areas, it will not be impacted or affected by the project.

Architectural History—Information found in the Caltrans Historic Bridge Inventory and the Caltrans Cultural Resources Database shows that the Garrapata Creek Bridge has been previously determined eligible on the National Register of Historic Places and California Register of Historical Resources, and it is also part of the Carmel-San Simeon Highway Historic District, an 80-mile-long historic district relating to the initial construction of State Route 1 along the Big Sur Coast of Monterey and Northern San Luis Obispo counties. These determinations all remain valid.

Environmental Consequences

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities will stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact Caltrans District 5 Environmental Branch staff so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

Tier 1

Caltrans, in accordance with Section 106 Programmatic Agreement Stipulation VIII.C.5, has determined there are properties within the Area of Potential Effects that were previously determined eligible for inclusion in the

National Register of Historic Places and those determinations remain valid. All bridges listed below were determined eligible in 1986 with updates in 1996 and 2006.

- Big Creek Bridge (1938)—post mile 28.1, Bridge Number 44-0056
- Bixby Creek Bridge (1932)—post mile 59.4, Bridge Number 44-0019
- Rocky Creek Bridge (1932)—post mile 60.0, Bridge Number 44-0036
- Garrapata Creek Bridge (1931)—post mile 63.0, Bridge Number 44-0018
- Granite Canyon Bridge (1932)—post mile 64.3, Bridge Number 44-0012
- Malpaso Creek Bridge (1935)—post mile 67.9, Bridge Number 44-0017

In addition, the Carmel-San Simeon Historic District (P-27-0027775), determined eligible in 1996 (updated in 2006), is state-owned and on the master list.

Caltrans, pursuant to Section 106 Programmatic Agreement Stipulation X.C, anticipates future Findings of Adverse Effect to be found in the Tier 2 (project-specific) analysis. In keeping with the tiered analysis of the projects, Caltrans has notified the State Historic Preservation Officer of these upcoming projects. The effects of each undertaking will be dealt with on a case-by-case basis in the Tier 2 (project-specific) analysis documents moving forward as more specific information comes to light about each project.

Tier 2

The Garrapata Creek Bridge Rail Replacement project is expected to significantly impact the historic Garrapata Creek Bridge. Caltrans, pursuant to Section 106 Programmatic Agreement Stipulation X.C, has determined a Finding of Adverse Effect is appropriate for this undertaking, and requests the State Historic Preservation Officer's concurrence in this determination.

Avoidance, Minimization, and/or Mitigation Measures

Mitigation will be required for each Tier 2 project.

Mitigation and minimization measures for the Tier 1 bridges will include the development of a context sensitive bridge railing design that is as compatible with the original railing in terms of design and materials as can be allowed under Manual for Assessing Safety Hardware standards. Project-specific mitigation for the individual adverse effects for each of the Tier 2 projects may also include a public interpretive document (pamphlet or booklet) on the history of transportation and historical context of the bridges that will be distributed in the local area, and Historic American Engineering Record professional photographic and written documentation of the bridge to be prepared before the bridge railing is demolished. An interpretive exhibit may also be installed in an area, or areas, where it can provide a public benefit. The information in the exhibit will cover the history of transportation and

historical context of the local area and can be installed in the project vicinity. Detailed mitigation measures will be finalized in the Memorandum of Agreement between Caltrans and the State Historic Preservation Officer and may be streamlined by developing agreements with the State Historic Preservation Officer that address the six projects as a whole.

2.2 Biological Environment

2.2.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Affected Environment

Tier 1 and Tier 2

The Big Sur Coast supports a diverse array of environmentally sensitive habitat areas, including marine habitats (intertidal and submerged rock areas, kelp beds, important spawning areas), plant habitats (sensitive plants, dunes, serpentine rock associations, riparian corridors, coastal prairies, and grasslands), and wildlife habitats (rare endangered, sensitive wildlife). Marine Environmentally Sensitive Habitat Areas occur along this section of Big Sur coastline, but do not occur within the project area, and would not be impacted by the project. Also, the project does not occur within a stream buffer, wetland setback, or any other setbacks.

The biological study area occurs on a coastal terrace along the Big Sur Coast on State Route 1 between the Santa Lucia Mountains and the Pacific Ocean. Elevations vary from 83 and 106 feet above mean sea level. Winter temperatures in the region average 51 degrees Fahrenheit, and summer temperatures average 60 degrees Fahrenheit, with annual average precipitation of 19.85 inches.

The following have headwaters in the Santa Lucia Mountains that outlet into the Pacific Ocean downstream of the project areas: Location 1, Big Creek, a perennial creek; Location 2, Bixby Creek, a perennial creek; Location 3, Rocky Creek, a perennial creek; Location 4, Garrapata Creek, an intermittent creek; and Location 6, Malpaso Creek, a perennial creek.

Characterizations of natural vegetation communities follow *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) and *A*

Manual of California Vegetation (2009), where applicable. According to the Soil Survey Geographic (SSURGO 2018) Database, soils in the biological study area consist of arroyo seco (gravelly sandy loam), junipero (coarse-loamy), and fluvents stony (sandy loam), which are typical of the Coast Range in the region.

A Tier 1 and Tier 2 Natural Environment Study was prepared September 2020.

The natural habitat in the project biological study areas consists mostly of ice plant mats (*Carpobrotus* sp.), ruderal and disturbed areas, and coastal scrub growing along steep slopes. Ice plant mat vegetation dominates slopes adjacent to the bridges and the areas below the bridges. At some locations, some native plants are mixed with the ice plant mats, along with a combination of exotic and native species resulting from invasive species introduction associated with highway construction, operation, and maintenance.

Coastal Scrub

Coastal scrub within the biological study area is best described as Central Lucian coastal scrub. Dominant species include black sage (*Salvia mellifera*), California sagebrush (*Artemisia californica*), coyote bush (*Baccharis pilularis*) and sticky monkeyflower (*Mimulus aurantiacus*) with scattered annual grasses and forbs in between the shrub layer. Seacliff buckwheat (*Erigonium parvifolium*) can also be found within this community. This habitat is common on the ocean side of the Santa Lucia Mountain Range, between Monterey and Point Conception, and usually below 2,000 feet above sea level. This community consists of dense shrubs 3 to 6 feet high and lacks grassy or herbaceous openings. Coastal scrub may support habitat for certain special-status plant species, reptile species, various nesting bird species, as well as invertebrates such as Smith's blue butterfly.

Ruderal/Disturbed

Ruderal/disturbed areas contain mainly non-native weedy and/or invasive species tolerant of disturbed conditions (compacted soils, roadsides subjected to vehicle disturbances, etc.). Ruderal/disturbed areas are found throughout the biological study area and in the project area where vehicle impacts and maintenance activities have routinely affected and compacted the unpaved shoulders along State Route 1.

Environmental Consequences

Tier 1

The biological study area does not occur within a known wildlife corridor, and no wildlife connectivity impacts are anticipated. Certain invasive, weedy plants occur within the Area of Potential Impacts, and measures will be implemented to avoid or minimize the spread of these species throughout the

Area of Potential Impacts. The project is expected to have no effect on listed plant species and their designated critical habitat. The biological study area includes two plant communities: coastal scrub and ruderal/disturbed. Native and non-native species occur within both of these communities, to varying degrees. No trees are proposed for removal for the project, but vegetation clearing and/or trimming may be required for construction.

No impacts to other waters, riparian areas and/or Environmentally Sensitive Habitat Areas under jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and the California Coastal Commission are anticipated with the current scope of the project.

The Federal Endangered Species Act Section 7 effects determination is that, with implementation of the included avoidance and minimization measures, the project would have no effect on federally listed species or designated critical habitat.

Tier 2

Garrapata Creek is federally designated critical habitat for the south-central California coast steelhead, but this habitat would not be affected by the project. All work would be conducted well outside of the jurisdictional areas of the creek. Permanent impacts are not anticipated with the project.

Avoidance, Minimization, and/or Mitigation Measures

Tier 1 and Tier 2

1. Avoidance and minimization of ground disturbance due to project-related actions will be achieved with the establishment of Environmentally Sensitive Areas. The Environmentally Sensitive Areas will ensure that unnecessary disturbance does not occur outside of the project limits. Environmentally Sensitive Areas limits will be shown on the final layout plans.
2. Five days prior to the beginning of work, the Resident Engineer will meet with the Project Biologist in the field at the project site for the identification of select locations where Environmentally Sensitive Area fence and flagging will be incorporated.
3. All equipment staging and material storage, stockpile, disposal, and borrow sites must be inspected for potentially sensitive biological resources prior to use or equipment mobilization. If sites are selected other than those already designated on the approved project plans, the Resident Engineer will contact the Environmental Construction Liaison or Project Biologist no less than two weeks prior to use of equipment staging and material storage, stockpile, disposal, and borrow sites. If sensitive biological resources are found at such sites, then new locations will be selected.

4. Following construction, areas of temporary disturbance to natural habitats would be stabilized and revegetated; these include areas supporting coastal scrub. Permanent erosion control, planting, or a combination of both would be used to vegetate all temporarily impacted areas. The Caltrans Landscape Architecture Division would prepare erosion control and planting plans in coordination with the project biologist. Permanent erosion control seed would consist of a mix of species native to the area. Areas of temporarily disturbed coastal scrub would be replaced in-kind.

2.2.2 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service, and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and Species of Special Concern, and U.S. Fish and Wildlife Service or National Oceanic and Atmospheric Administration's National Marine Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act
- Marine Mammal Protection Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 to 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

Tier 1

The projects are within the known range of the Smith's blue butterfly (*Euphilotes enoptes smithi*; federally endangered). This butterfly inhabits coastal sand dunes and cliff/chaparral areas along the Central California coast in Monterey, Santa Cruz, and San Mateo counties. Individuals spend their entire lives in association with one of two species of buckwheat: seacliff

buckwheat (*Eriogonum parvifolium*) and seaside buckwheat (*Eriogonum latifolium*). These plants are host plants for the larvae and the principle nectar sources for adults. Smith's blue butterflies emerge in late summer and early autumn, and the adults mate and lay eggs on the flowers of the host plants. Individuals typically spend their lifetime within 200 feet of the host plant on which they emerged. The major threat to this species is loss of habitat, especially in the coastal sand dune habitat.

The project areas support seacliff buckwheat and seaside buckwheat, which can serve as host plants for the Smith's blue butterfly along this portion of the California coast. Protocol-level surveys were conducted for the Smith's blue butterfly in 2018 and 2019.

The stretch of beach below Big Creek Bridge is used as a haul-out (rest) area by two species of pinnipeds: harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*). Both species are common along the California coastline and protected under the Marine Mammal Protection Act. Harbor seals rest on rocks, reefs, and beaches at night and during the day. This is done to regulate their body temperature, molt, interact with other seals, give birth, and raise their pups. They also rest in groups to avoid predators. California sea lions prefer sandy beaches or rocky coves for resting and breeding sites. The beach below Big Creek Bridge (Location 1) is a known haul-out location for these two species.

Tier 2

At the Garrapata Creek Bridge, a deceased Monterey big-eared woodrat (*Neotoma macrotis luciana*) was seen under the southern bridge abutment. A single monarch butterfly (*Danaus plexippus*) was seen flying through the biological study area. No other special-status animal species were found in or next to the project limits.

Environmental Consequences

Tier 1

Creeks at Locations 1-4 and Location 6 (Big Creek, Bixby Creek, Rocky Creek, Garrapata Creek, and Malpaso Creek) support federally designated critical habitat for the south-central California coast steelhead; however, this habitat would not be affected by the proposed projects.

Protocol surveys for the federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*) were done in 2018 and 2019. Smith's blue butterflies were seen at Location 1 (Big Creek Bridge) on August 21, 2019, but it is anticipated that work can fully avoid areas with habitat for the species, so no impacts to the Smith's blue butterfly are anticipated. Protocol surveys would be repeated as each of the Tier 2 projects is programed.

Tier 2

One California species of special concern, a deceased Monterey big-eared woodrat (*Neotoma macrotis* luciana), was discovered under a bridge abutment at Location 4 (Garrapata Creek Bridge). Measures would be incorporated in the Garrapata Creek project to avoid impacts to woodrats.

Avoidance, Minimization, and/or Mitigation Measures

Tier 1

The following avoidance and minimization measures would be implemented for all nesting birds:

- Prior to construction, a nesting bird survey will be conducted by a Caltrans biologist to determine presence/absence of nesting birds within the project area, if construction activities are to take place during the typical nesting season (February 1 to September 30). If an active nest of a migratory bird is discovered, all work will cease until a Caltrans biologist determines an appropriate buffer and monitoring strategy based on the habits and needs of the species. The buffer area will be avoided until a qualified biologist has determined that juveniles have fledged. Active nests will not be disturbed, and eggs or young of birds covered by the Migratory Bird Treaty Act and California Fish and Game Code will not be killed, injured, or harassed at any time.

The following avoidance and minimization measures will be implemented for pinnipeds at the Big Creek Bridge location:

- If California sea lions or harbor seals are observed hauling-out on the stretch of beach below the construction area, all work must cease until a Caltrans biologist has monitored and determined construction activities are not causing harm to or altering the behavior of the pinnipeds.

Tier 2

The following avoidance and minimization measures are recommended for the Monterey big-eared woodrat and are applicable to project activities occurring within the Area of Potential Impacts:

1. Prior to implementation of proposed project activities, a pre-construction visual survey will be conducted by a Caltrans biologist within suitable woodrat habitat in the Area of Potential Impacts to determine the presence or absence of woodrat nests.
2. If woodrat nests are located during this survey, the biologist will flag the area to establish a 25-foot buffer around active nests where work would not occur.
3. If nests are present in a location that cannot be avoided by work activities, a Caltrans biologist will dismantle the woodrat nest by hand immediately prior to work, allowing individuals to move out of the area.

2.2.3 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under the California Environmental Quality Act can be found in Section 15355 of the California Environmental Quality Act Guidelines. A definition of cumulative impacts under the National Environmental Policy Act can be found in 40 Code of Federal Regulations Section 1508.7.

Approach and Methodology

The Tier 1 program analysis presented in Chapter 2 identifies the range of environmental impacts that would result from implementation of the Tier 1 Big Sur Bridge Rail Replacement Program for the six historic bridges at the program level. The analysis of the Tier 1 program cumulative impacts presents a “snapshot” of information currently available at the corridor level. Because the Tier 1 program improvements would be constructed over a multi-year time frame, potential cumulative impacts, as well as other resource impacts, could change over time. As projects are programmed as Tier 2 construction-level projects, they will be subject to separate environmental review, including the consideration of cumulative impacts.

Discussion of the Tier 2 Garrapata Creek Bridge Replacement is provided at the project level because implementation is expected in the near future.

Resources Considered in the Cumulative Impact Analysis

This cumulative impact analysis includes an analysis of resources that may be undergoing a change due to cumulative impacts of development or are in poor health near the project. For each identified resource, a brief description of the resource, Resource Study Area, and the historic and current health of the resource are provided. For the Big Sur Bridge Rail Replacement Program, the resources considered include Cultural Resources and Visual Resources.

Definition of Resource Study Area

Caltrans guidance for cumulative impacts sections under the California Environmental Quality Act and National Environmental Policy Act indicates that a Resource Study Area must be defined for each resource. A Resource Study Area is the geographic area within which impacts on a resource are analyzed. The boundaries of a Resource Study Area are often broader than the boundaries used for project-specific analysis, such as a biological study area. The Resource Study Area for each resource is described below.

Visual Resources

The Resource Study Area used for analysis of cumulative visual impacts of the Tier 2 Garrapata Creek Bridge Rail Replacement project encompasses an approximately 41-mile stretch of coast highway along the Big Sur Coast. State Route 1 in Monterey County throughout the Big Sur corridor is designated as an Official State Scenic Highway, a National Scenic Byway, and an All-American Road.

Included within the Resource Study Area are seven historic bridges built in the 1930s that are important examples of the engineering technology and aesthetic preference of the era. The bridges share a common design; each is an open-spandrel concrete arch structure with open bridge rail. Other historic elements seen by the highway traveler include parapet walls, culvert headwalls, and drinking fountains.

In addition to the historic structures, many other built elements contribute to the visual character of the highway experience. Bridge rails are noticeable components of both historic and non-historic structures. The railings of the coastal bridges are important in their ability to define the architectural style of structures as well as their potential effect on ocean views. Open-style railing is associated with older structures and design, while the railing constructed since the 1970s is typically solid.

Cultural Resources

The Resource Study Area for cumulative impact analysis of cultural resources associated with the project is defined as the Carmel-San Simeon Highway Historic District, an approximately 80-mile-long historic district relating to the initial construction of State Route 1 along the Big Sur Coast of Monterey and northern San Luis Obispo counties. The Historic District is composed of 241

original rubble stone masonry highway features as well as seven concrete arch bridges (these include the six mentioned above in addition to the Wildcat Creek Bridge [Bridge Number 44-0016]). The Wildcat Creek Bridge is the only example of a reinforced concrete closed-spandrel arch bridge within the district; because it includes solid railing with a smooth cap, it is not included in the bridge rail replacement program at this time.

The period of significance for the Historic District is 1922 to 1938, which represents the construction period for all of the constituent resources.

Projects Analyzed for Cumulative Impacts

Monterey County Capital Improvement Projects

Past, present, and reasonably foreseeable projects considered for this cumulative impact analysis are listed in Table 2-2. These include infrastructure projects in or adjacent to the project corridor, as well as private developments within the Tier 1 program vicinity. Many are Caltrans-proposed projects, and some are projects authorized by or proposed by local agencies including Monterey County.

The following sources were consulted to identify all projects to be considered in cumulative impact analysis:

- Governor's Office of Planning and Research Office database of environmental documents, available at http://www.ceqanet.ca.gov/
- Monterey County Regional Transportation Plan
- Caltrans District 5, Project Information page, available at http://www.dot.ca.gov/dist05/projects
- Big Sur Coast Land Use Plan

Table 2-2 Past, Present, and Reasonably Foreseeable Projects Considered for Cumulative Impact Analysis

Project Name or Applicant	State Route 1 Project Location (Post Mile)	Project Description	Impacts
Big Sur Capital Preventative Maintenance project	PM 39.8/74.6	Caltrans proposes to extend the service life and improve the existing pavement on approximately 35 miles of State Route 1. At certain locations, the work would also include upgrading existing guardrails, modifying existing pedestrian curb ramps, and replacing existing signage. The project was Ready to List on June 19, 2019.	Mitigation reduced potential visual impacts to a less than significant level. Cultural resources will be avoided. The project will result in a finding of no adverse effect with standard conditions.

Project Name or Applicant	State Route 1 Project Location (Post Mile)	Project Description	Impacts
Castro Canyon Bridge Rail Upgrade	PM 43.1	Caltrans is proposing to upgrade the existing bridge rails on the Castro Canyon Bridge. The project is expected to be Ready to List on May 13, 2022.	Bridge rail design will minimize visual impacts and will match the surrounding visual character. No impacts to cultural resources are anticipated.
Electrochemical Chloride Extraction Projects on Big Creek Bridge	PM 28.1	Rehabilitate the Big Creek Bridge super structure by an Electrochemical Chloride Extraction process. Currently in construction.	Wrapping of the bridge during construction creates temporary visual impacts. No long-term visual or cultural impacts are anticipated.
Electrochemical Chloride Extraction Projects on Garrapata Creek Bridge	PM 63.0	Rehabilitate the Garrapata Creek Bridge super structure by an Electrochemical Chloride Extraction process. Scheduled for construction in 2021.	Wrapping of the bridge during construction creates temporary visual impacts. No long-term visual or cultural impacts are anticipated.
Orient Express Tieback Wall	PM 27.5	Caltrans proposes to construct a tieback wall, restore roadway and facilities, place water pollution control Best Management Practices, and erosion control.	Impacts unknown; project in preliminary studies.
Limekiln Creek Bridge Replacement	PM 20.9	Caltrans proposes to replace Limekiln Creek Bridge. The draft environmental document is expected to be released in October 2021.	Impacts unknown; project in preliminary studies.
Monterey County Capital Improvement Project 1158: Nacimiento-Fergusson Road Overlay	Nacimiento Fergusson Road off State Route 1	Project will include grinding existing surface and placing a hot mix asphalt patch. Construction will begin in fiscal year 2023/2024.	No impacts to visual or cultural resources.
Mud Creek Permanent Restoration	PM 8.7/9.1	Caltrans emergency project to restore the highway following the Mud Creek landslide in 2017. Massive earthwork cuts and engineered embankments are included in the project. Construction is in progress.	Visual impacts include: Vegetation planting for slope stabilization. Addition of new urbanizing elements such as roadside paving, signage, guardrails, concrete barriers. Drainage components would be installed.

Environmental Consequences

Visual Resources

The Big Sur Bridge Rail Replacement Program (Tier 1) and the Garrapata Bridge Rail Replacement (Tier 2) project would result in a cumulative loss of scenic vistas, a substantial reduction of visual quality and character, and loss of visual access to coastal scenic resources. Scenic vistas throughout the project area include expansive mid-to-distant views of the Pacific Ocean, the rocky shoreline, dramatic topography and hillsides, native vegetative patterns, and undeveloped landscapes.

The historic bridges are primary contributors to the scenic vistas throughout the area.

Cultural Resources

In addition to being individually eligible for the National Register of Historic Places and the California Register of Historic Resources, the Big Sur Bridges are all contributing resources within the Carmel-San Simeon Highway Historic District. The Garrapata Creek Bridge Rail Replacement project is expected to significantly impact the historic Garrapata Creek Bridge. Caltrans has determined a Finding of Adverse Effect is appropriate for this undertaking and requests the State Historic Preservation Officer's concurrence in this determination.

Cumulative impacts to the entire historic district will be minimized through various mitigation measures.

Avoidance, Minimization, and/or Mitigation Measures

Visual Resources

To minimize potential cumulative visual impacts caused by the project, the following actions are recommended:

- Involve the community in the design of all aesthetic project features.
- Use an open-style bridge rail that minimizes view blockage.
- Use the smallest end blocks possible that meet safety needs.
- Use finish colors and textures that minimize reflectivity and glare.
- Re-contour all disturbed areas and construction access roads to a natural appearance.
- Vegetate all stabilized soil areas with native shrubs and grasses as appropriate.

- Bury all over side drains and inlet structures or hide them from view to the greatest extent possible. Where unavoidably exposed to view, color the pipes to reduce noticeability, and dull the gloss of the finish.

- Where metal beam guardrail or metal end treatments are required, utilize measures to reduce reflectivity of the metal components.

Cultural Resources

To reduce cumulative impacts, mitigation would be required for each Tier 2 project. Mitigation and minimization measures for all proposed Tier 1 bridge rail replacement projects would include context sensitive bridge railing design.

The Tier 2 projects may also include a public interpretive document (pamphlet or booklet) on the history of transportation and historical context of the bridges that would be distributed in the local area, and Historic American Engineering Record professional photographic and written documentation of the bridge to be prepared before the bridge railing is demolished.

An interpretive exhibit may be installed in an area where it can provide a public benefit. The information in the exhibit would be on the history of transportation and historical context of the local area and can be installed in the project vicinity.

Detailed mitigation measures would be finalized in the Memorandum of Agreement between Caltrans and the State Historic Preservation Officer.

Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance Under CEQA

One of the main differences between the National Environmental Policy Act and the California Environmental Quality Act is the way significance is determined. Under the National Environmental Policy Act, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. The National Environmental Policy Act requires that an Environmental Impact Statement be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under the California Environmental Quality Act may not be of sufficient magnitude to be determined significant under the National Environmental Policy Act. Under the National Environmental Policy Act, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. The National Environmental Policy Act does not require that a determination of significant impacts be stated in the environmental documents.

The California Environmental Quality Act, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the California Environmental Quality Act Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. There are no types of actions under the National Environmental Policy Act that parallel the findings of mandatory significance of the California Environmental Quality Act. This chapter discusses the effects of this project and California Environmental Quality Act significance.

3.2 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 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 words “significant” and “significance” used throughout the following checklist are related to California Environmental Quality Act, not National Environmental Policy Act, impacts. 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; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

Aesthetics

CEQA Significance Determinations for Aesthetics

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

a) Have a substantial adverse effect on a scenic vista?

Significant and Unavoidable Impact—Given the high scenic value and visual character of the Big Sur coastline, the ongoing cumulative effect of this project and other highway projects continues to reduce the area’s visual character. Mitigation would not be effective in reducing visual impacts to a level of insignificance.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Significant and Unavoidable Impact—The inclusion of the avoidance, minimization, and mitigation measures listed in Section 2.1.2 would reduce the visual impacts but, even with inclusion of these measures, the impacts would not be able to be fully mitigated.

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?

Significant and Unavoidable Impact—The inclusion of the avoidance, minimization, and mitigation measures listed in Section 2.1.2 would reduce the visual impacts, but even with inclusion of these measures the project impacts would not be able to be fully mitigated. The project will substantially degrade the existing visual character or quality of public views of the site and its surroundings.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact—The project would not add any new sources of substantial light or glare.

Agriculture and Forest Resources

CEQA Significance Determinations for Agriculture and Forest Resources

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

Would the project:

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—The County of Monterey zoning map indicates that grazing lands are next to some of the project locations, but not within the project limits. Impacts to agricultural lands are not expected.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact—No land that falls under the Williamson Act would be affected by the project. Existing agricultural zoning would not be impacted.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact—The County of Monterey zoning map indicates that forest resources are next to some of the project locations, but not within the project limits. Impacts to forest resources are not expected.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact—Forest lands would not be impacted by the project.

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—No project work would encroach on forest lands, and no conversion of land use would occur as a result of the project.

Air Quality

CEQA Significance Determinations for Air Quality

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

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact—No differences in long-term air quality would result from the project. See Chapter 2.

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?

No Impact—No difference in long-term air emissions would result from the project because no additional lanes or capacity would be added to State Route 1.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact—Temporary construction activities could generate fugitive dust and airborne pollutants. A debris containment and

collection plan would be implemented during construction to minimize impacts.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact—Other emissions are not expected.

Biological Resources

CEQA Significance Determinations for Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant Impact—No special-status plant species were found during appropriately timed floristic surveys. No impacts to the Smith's blue butterfly are anticipated. Measures would be incorporated in the Garrapata Creek Tier 2 project to avoid impacts to woodrats.

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 Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact—Marine environmentally sensitive habitat areas occur along this section of the Big Sur coastline, but do not occur within the project area and will not be impacted by the project. The project does not occur within a stream buffer, wetland setback, or any other setbacks. Impacts to marine mammals that are known to haul-out in the Big Creek project vicinity will be avoided.

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?

No Impact—The project would not involve work within any protected wetland areas.

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—The biological study area does not occur within a known wildlife corridor, and no wildlife connectivity impacts are anticipated. The project will not involve any work within any creeks and will not interfere with the movement of migratory fish.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact—The project complies with local policies and ordinances protecting biological resources.

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—No habitat conservation plans were identified near the project.

Cultural Resources

CEQA Significance Determinations for Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant With Mitigation Incorporated—As detailed in the Cultural Resources section in Chapter 2, the six Historic Big Sur Bridges are all individually listed in the National Register of Historic Places and are components of a historic district considered a significant historical resource under the California Environmental Quality Act. The project would have an adverse effect on cultural resources. Therefore, under the California Environmental Quality Act, the project would have a significant impact. To mitigate the significant impact, the replacement bridge railings would incorporate a context sensitive design. Detailed mitigation measures would be outlined in the Memorandum of Agreement between Caltrans and the State Historic Preservation Officer. (See Chapter 2, Cultural Resources section, for detailed discussion of measures.) Impacts to historical resources are less than significant with mitigation incorporated.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No Impact—There are no archaeological resources within the project limits for the Tier 1 bridge rail replacement projects or the Tier 2 Garrapata Creek Bridge Rail Replacement project.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

No Impact—The project will not disturb any human remains.

Energy

CEQA Significance Determinations for Energy

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

No Impact—Caltrans incorporates energy efficiency into the design, construction, and maintenance of all transportation projects. Construction of the project would incorporate energy efficiency measures and product recycling wherever feasible. The project is not capacity-increasing, so operation would not increase energy use.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact—The project would replace bridge rails on State Route 1 and therefore would not substantially change energy use. The project would comply with relevant policies.

Geology and Soils

CEQA Significance Determinations for Geology and Soils

Would the project:

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—No fault lines cross the project site, but California is subject to earthquakes. The project would be designed to meet Caltrans seismic standards.

ii) Strong seismic ground shaking?

No Impact—The project would be designed and constructed to withstand ground shaking from the maximum credible earthquake event predicted for the site, following Caltrans seismic standards.

iii) Seismic-related ground failure, including liquefaction?

No Impact—The project would replace bridge rails and would not involve work at the base of bridge supports.

iv) Landslides?

No Impact—State Route 1 through Big Sur is susceptible to landslides; however, the project would not create unstable slopes susceptible to landslide activity.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact—Work on the bridges would not involve disruption of large amounts of soil. Standard erosion control Best Management Practices would be used.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

No Impact—Bridge rail replacement work would be conducted from the bridge decks and would not impact bridge foundations.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact—U.S. Geological Service Data suggests the soils are not expansive. Bridge rail replacement work would not impact foundations.

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 waste water?

No Impact—No septic tanks or wastewater disposal systems are proposed for this transportation project.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact—Earthwork is expected to occur in areas that have been previously disturbed or are too young to contain scientifically important fossils.

Inadvertent fossil discoveries would be assessed by a qualified paleontologist.

Greenhouse Gas Emissions

CEQA Significance Determinations for Greenhouse Gas Emissions

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

No Impact—Temporary increases in greenhouse gas emissions during project construction would be minimized through implementation of Best Management Practices. Climate Change Guidance developed by the Caltrans Division of Environmental Analysis indicates that certain types of projects would have minimal or no increase in operational greenhouse gas emissions. Roadway improvement projects, such as this one, are included on that list.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact—The project would not conflict with any known plan, policy, or regulation relative to reducing greenhouse gas emissions.

Hazards and Hazardous Materials

CEQA Significance Determinations for Hazards and Hazardous Materials

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impact—Implementation of standard measures to handle, reuse, and dispose of hazardous materials encountered during project construction would avoid and minimize impacts from hazardous waste.

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—Standard measures would be implemented to handle and dispose of hazardous waste.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact—No schools are near the project locations.

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—The project locations are not on a known hazardous materials site.

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—The project is not near an airport.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact—The Traffic Management Plan would account for emergency evacuation.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact—Certain project-related construction activities have the potential to ignite a wildfire. Avoidance and minimization measures would be incorporated to reduce wildfire risk.

Hydrology and Water Quality

CEQA Significance Determinations for Hydrology and Water Quality

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

No Impact—Short-term construction-related water quality impacts would be minimized with implementation of appropriate Best Management Practices.

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—The project would not involve excavation work extensive enough to impact groundwater resources.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

No Impact—Standard Best Management Practices would reduce construction-period erosion and siltation. Long-term changes in erosion or siltation are not expected. No work will occur in the creeks.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

No Impact—The project would not affect the amount of impervious surface area.

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

No Impact—Standard stormwater Best Management Practices would address any concerns related to runoff.

iv) Impede or redirect flood flows?

No Impact—The project would be designed to accommodate 100-year flood events and would not create flood barriers. Existing drainage patterns would be maintained, and flood flows would not be redirected.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact—The project does not contain pollutants that would damage the environment if inundated.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact—The project would not substantially alter the flow of surface water or groundwater. Short-term construction-related water quality impacts would be minimized with implementation of appropriate Best Management Practices.

Land Use and Planning

CEQA Significance Determinations for Land Use and Planning

Would the project:

a) Physically divide an established community?

No Impact—The project is improving an existing structure in a rural area.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact—The project is improving an existing structure, so there would be no conflicts with land use.

Mineral Resources

CEQA Significance Determinations for Mineral Resources

Would the project:

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—No known mineral resources occur near the project.

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—No known locally important mineral resources occur near the project.

Noise

CEQA Significance Determinations for Noise

Would the project result in:

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—Adverse noise impacts from construction are not anticipated because construction would be temporary and intermittent, conducted in accordance with Caltrans Standard Specifications, and because local noise levels are significantly influenced by local traffic noise. To minimize impacts on resident's normal nighttime sleep activities, it is recommended that whenever possible construction work be done during the day, especially when work is near sensitive receptors. If nighttime construction is necessary, the noisiest construction activities should be done nearest the residences as early

in the evening as possible. Caltrans Standard Specifications (Section 14-8.02) requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 dBA (decibels) Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

b) Generation of excessive ground borne vibration or ground borne noise levels?

No Impact—Noise levels are not expected to exceed Caltrans specifications or be considered excessive.

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—The project is not within 2 miles of a public airport or private airstrip.

Population and Housing

CEQA Significance Determinations for Population and Housing

Would the project:

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—The project is not capacity-increasing and therefore would not induce growth.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact—The project would not require relocation of residences.

Public Services

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?

Less Than Significant Impact—No long-term changes in emergency access would result from the project. Temporary impacts to emergency response times would be accounted for in a Traffic Management Plan.

Police protection?

Less Than Significant Impact—No long-term changes in emergency access would result from the project. Temporary impacts to emergency response times would be accounted for in a Traffic Management Plan.

Schools?

No Impact—No schools are near the project.

Parks?

Less Than Significant Impact—Access to Garrapata State Beach and other parks could be temporarily affected during project construction.

Other public facilities?

Less Than Significant Impact—Access to public facilities could be temporarily affected during project construction.

Recreation

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—The project would not increase the capacity or change the configuration of State Route 1 and therefore would not increase the use of Big Sur beaches, including Garrapata State Park.

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—Bridge rail replacement work would have no effect on recreational facilities.

Transportation

CEQA Significance Determinations for Transportation

Would the project:

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact—The project would improve existing bridges.

b) Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

No Impact—The project would not increase the number of vehicle miles traveled.

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—The project would improve existing bridges.

d) Result in inadequate emergency access?

Less Than Significant Impact—No long-term changes in emergency access would result from the project. Minor temporary traffic delays may occur during construction, but these potential delays will be minimized through implementation of a Traffic Management Plan. The Traffic Management Plan will include the use of advance message signs leading up to the project site, one-way traffic controls, public noticing, and posting on the Caltrans Quick Map website. Extra efforts will be made to accommodate traffic flow during times when there are special events occurring within the project vicinity such as the Big Sur Marathon.

Tribal Cultural Resources

CEQA Significance Determinations for Tribal Cultural Resources

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

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—There are no Tribal Cultural Resources within the project limits.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Codes Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact—There are no Tribal Cultural Resources within the project limits.

Utilities and Service Systems

CEQA Significance Determinations for Utilities and Service Systems

Would the project:

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?

Less Than Significant Impact—The Tier 1 projects may require relocation of utilities. The Tier 2 Garrapata Creek Bridge project will not involve utility relocation.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact—No additional water services would be needed because the project is not capacity-increasing.

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—The project would generate minimal wastewater that would primarily be sanitary waste generated by construction workers, which would be transported and treated off-site.

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—Generated solid waste would be recycled when possible and would not exceed standards or local landfill capacities.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact—The project will fully comply with all statutes and regulations related to solid waste.

Wildfire

CEQA Significance Determinations for Wildfire

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

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact—Emergency response and evacuation would be factored into the construction-period Traffic Management Plan.

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—The project involves improvements of existing bridges on State Route 1 and therefore does not have any project occupants.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact—Coordinating with the utility owners and implementing wildfire avoidance and minimization measures would avoid worsening wildfire risk.

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—The project would not increase runoff, post-fire slope instability, or drainage changes.

Mandatory Findings of Significance

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 With Mitigation Incorporated—The project would adversely affect historical resources. These impacts would be mitigated to below the level of significance through the use of context sensitive design and mitigation.

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.)

Significant and Unavoidable Impact—Significant impacts to visual resources are considered both individual impacts as well as cumulative impacts. Although mitigation measures would be applied, further damage would occur to scenic resources. Other projects considered within the visual resources study area would also result in further degradation of scenic resources.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact—The project is replacing existing bridge rails. No adverse impacts to human beings, including hazards or environmental justice issues, have been identified.

3.3 Wildfire

3.3.1 Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

Affected Environment

The Tier 1 and Tier 2 projects are located on coastal bluffs of the Pacific Ocean. The project is in a very high fire hazard severity zone as mapped by

the California Department of Forestry and Fire Protection. The project would not permanently worsen wildfire risk because it involves replacing existing structures. Instead, the project is expected to benefit the greater Big Sur Coast region because it would ensure the safety and reliability of the Big Sur corridor, which would be a critical evacuation route should a wildfire event occur locally.

Environmental Consequences

Certain types of construction work have the potential to ignite a wildfire, such as grinding which creates sparks, or work involving electrical utilities. Precautions would be taken to reduce fire risk from construction work as much as possible, and an emergency water supply would be kept on-site throughout the duration of the project. Prior to construction, vegetation would be cleared in a manner that would minimize fire risk while avoiding harm to the biological environment.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be implemented during project construction to reduce the risk of igniting a wildfire.

A Traffic Management Plan (measure TRA-1) would address emergency access and emergency evacuation in the event of a wildfire near the project.

WF-1: An emergency water supply for use if a fire is ignited will be maintained on the project site for the duration of project construction.

3.4 Climate Change

3.4.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (Federal Highway Administration 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (Federal Highway Administration n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been made at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) and Corporate Average Fuel Economy Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. Environmental Protection Agency in conjunction with the National Highway Traffic Safety Administration is responsible for setting greenhouse gas emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence greenhouse gas emissions.

State

California has been innovative and proactive in addressing greenhouse gas emissions and climate change by passing multiple Senate and Assembly bills and executive orders that can be found listed in the Climate Change Technical Study.

Affected Environment

The project sits along State Route 1 in Monterey County along the Big Sur Coast. State Route 1 in Monterey County serves local and interregional traffic which includes mostly recreational, local commuters, and limited commercial users. The route in Monterey County is designated as an Official State Scenic Highway, a National Scenic Byway, and an All-American Road. Along the highway, the primary developments are the roadway itself and related features, occasional roadside home sites and tourist-oriented businesses.

The Association of Monterey Bay Area Governments in coordination with the Transportation Agency for Monterey County guides transportation development in the project area through the Association of Monterey Bay Area Governments' Metropolitan Transportation Plan/Sustainable Communities Strategy and the Transportation Agency for Monterey County's Regional Transportation Plan.

The California Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Metropolitan Transportation Plan/Sustainable Communities Strategy to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels. The Association of Monterey Bay Area Governments is the Metropolitan Planning Organization for the project area. The Air Resources Board's regional reduction target for the Association of Monterey Bay Area Governments is 6 percent by 2035 (Air Resources Board 2019c).

The project is within the jurisdiction of the Transportation Agency for Monterey County, which publishes its own regional transportation plan in association with the Association of Monterey Bay Area Governments. The Metropolitan Transportation Plan describes projects and policies that will contribute to meeting the regional greenhouse gas reduction goals consistent with the Association of Monterey Bay Area Governments Metropolitan Transportation Plan/Sustainable Communities Strategy. The 2018 Monterey County Regional Transportation Plan identifies complete streets projects, including bicycle, pedestrian, and public transit projects as important components of the strategy to develop sustainable communities in Monterey County and to achieve greenhouse gas targets.

See Table 3-1 for a listing of the regional and local greenhouse gas reduction goals.

Table 3-1 Regional and Local Greenhouse Gas Reduction Goals

Title	Greenhouse Gas Reduction Policies or Strategies
Association of Monterey Bay Area Governments 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy and Regional Transportation Plans for Monterey, San Benito and Santa Cruz Counties (adopted June 2018)	• Integrated multi-modal network • Expand the public transit network • Strategic capacity and technology enhancements to existing highways • Identify a list of projects that will add and enhance walking and biking facilities • Transportation Systems Management measures • Transportation Demand Management
Transportation Agency for Monterey County Final 2018 Regional Transportation Plan	Environmental Stewardship Element: Protect and enhance the County's built and natural environment. Act to reduce the transportation system's emission of greenhouse gases.

Project Analysis

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.

Operational Emissions

The purpose of the proposed project (Tier 1 and Tier 2) is to upgrade bridge railings to meet current safety standards while retaining the historic visual character of the bridges. The project would not add vehicle capacity to the roadway and would not increase vehicle miles traveled. While some greenhouse gas emissions during the construction period would be unavoidable, the project once completed would not lead to an increase in operational greenhouse gas emissions.

Construction Emissions

Construction greenhouse gas emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced

through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the 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 the Caltrans Construction Emissions Tool. Construction emissions for replacing bridge railings on the Garrapata Creek Bridge are estimated to be 122 tons of carbon dioxide over the 5-month construction period.

Construction greenhouse gas emissions for planned bridge rail replacements on other bridges will be reported in their individual Tier 2 environmental documents.

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; contracts also include Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes.

The project will also implement Caltrans standardized measures (such as construction Best Management Practices) that apply to most or all Caltrans projects. Certain common regulations, such as equipment idling restrictions and development and implementation of a traffic control plan that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

CEQA Conclusion

While the project will 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.

Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

Avoidance, Minimization, and/or Mitigation Measures

The following measures will be implemented in the project to reduce greenhouse emissions and potential climate change impacts from the project:

- Caltrans Standard Specifications Section 7-1.02A and 7 1.02C, Emissions Reduction. Requires contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all Air Resources Board emission reduction regulations.

- Section 14-9.02, Air Pollution Control. Requires contractors to comply with all air pollution control rules, regulation, ordinances, and statutes.

Project Adaptation Analysis

As noted above, it is expected that California may be vulnerable to climate change effects that relate to temperature, wildfire, precipitation, storm surge, and sea level rise. Though the analysis of climate change risk involves a degree of uncertainty relating to the timing and intensity of potential risks, it is not expected that the Big Sur Historic Bridges (including the Garrapata Creek Bridge) would be particularly vulnerable to the effects of climate change, and construction of the Tier 2 project itself is not expected to locally worsen the effects of climate change.

3.4.2 Sea Level Rise

At the Garrapata Creek Bridge project site, State Route 1 is at an elevation of about 95 feet above mean sea level. The State of California 2018 Sea Level Rise Guidance Document provides projections for the height of sea level rise along the California Coast using the most current data from the Ocean Protection Council. The guidance document outlines a five-step approach for evaluating the risks associated with sea level rise at a given location.

The first step is identifying the nearest tide gauge, which is Monterey for the Big Sur Historic Bridges. The second and third steps involve estimating the projection year that should be used in the analysis, which is year 2100 for the project given an estimated 75-year life span of the replacement Big Sur Bridge rails. The fourth and fifth steps involve assigning the risk and tolerance for the site. Caltrans' adopted policies are to use the high emissions scenario and a 1-in-200 chance (0.5 percent probability).

At the Monterey tide gauge under a high-emissions scenario, there is 0.5 percent probability that sea level rise will meet or exceed 6.9 feet by the year 2100. Also considered is the H++ climate scenario, which has no associated probability, but is an extreme climate change scenario. Under the H++ scenario, sea level rise is predicted to rise 10.1 feet at the Monterey tide gauge by 2100. Sea level rise projections for the Monterey tide gauge are shown in Table 3-2.

Table 3-2 Projected Levels of Sea Level Rise at Project Site for Year 2100 Under a High Emission Scenario

Probability	Risk Level	Year 2100 High Emission Scenario at the Monterey Tidal Gauge
Upper limit of "likely range" (66 percent probability)	Low	3.3 feet
1-in-200 chance (0.5 percent probability)	Medium-High	6.9 feet
H++ Scenario (no associated probability)	Extreme	10.1 feet

Source: State of California Sea Level Rise Interim Guidance Document, 2018.

Floodplains

Regional climate forecasts project California to receive less precipitation overall in the future, with the potential for heavier individual events and more falling as rain than snow. The District 5 Caltrans Climate Change Vulnerability Assessment (2019) analyzed potential changes in the 100-year storm event over time. The 100-year storm event is a metric commonly considered in the design of highway infrastructure.

Average observed 100-year storm precipitation from 1961 to 1990 was about 3.4 inches and ranged from 2.6 to 5.6 inches (CalAdapt 2020). Mapping using the Caltrans District 5 Vulnerability Assessment Mapping Tool shows that 100-year storm precipitation depth in the project area is likely to increase by less than 5 percent through 2055, and up to 9.9 percent by 2085 (compared to data from 1950 to 2005). The project would be designed to accommodate 100-year flood events and would not create flood barriers. Existing drainage patterns would be maintained. It is expected that the project would be resilient to an up to 9.9 percent change in the 100-year storm event.

Wildfire

The Garrapata Bridge project area on State Route 1 crosses moderate and high fire hazard severity zones in a State Responsibility Area (https://egis.fire.ca.gov/FHSZ/). The District 5 Climate Change Vulnerability Assessment Mapping Tool shows the project area to be of moderate concern for wildfire exposure. The project would not introduce new structures vulnerable to fire into the project area. Fire-resistant materials will be selected for the bridge rails. Accordingly, this bridge rail project is expected to be resilient to wildfire.

Vulnerability to fire hazard for the future planned bridge rail projects will be evaluated in each individual Tier 2 environmental document.

For all projects, Caltrans 2018 revised Standard Specification 7-1.02M(2) mandates fire prevention procedures during construction, including a fire prevention plan. The Tier 1 and Tier 2 projects are not anticipated to exacerbate the impacts of wildfire intensified by climate change.

Climate Change References

The following are the sources cited in this section:

CalAdapt. 2020. Extreme Precipitation. Changes in Intensity of Extreme Precipitation Events. http://cal-adapt.org/tools/extreme-precipitation/. Accessed: October 1, 2020

California Air Resources Board (ARB). 2019a. California Greenhouse Gas Emissions Inventory–2019 Edition. https://ww3.arb.ca.gov/cc/inventory/data/data.htm. Accessed: August 21, 2019.

California Air Resources Board (ARB). 2019b. California Greenhouse Gas Emissions for 2000 to 2017. Trends of Emissions and Other Indicators. https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf. Accessed: August 21, 2019.

California Air Resources Board (ARB). 2019c. SB 375 Regional Plan Climate Targets. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: August 21, 2019.

California Department of Transportation. 2019. Caltrans Climate Change Vulnerability Assessments. District 5 Technical Report. December. Prepared by WSP.

Federal Highway Administration (FHWA). 2019. Sustainability. https://www.fhwa.dot.gov/environment/sustainability/resilience/. Last updated February 7, 2019. Accessed: August 21, 2019.

Federal Highway Administration (FHWA). No date. Sustainable Highways Initiative. https://www.sustainablehighways.dot.gov/overview.aspx. Accessed: August 21, 2019.

State of California. 2018. California's Fourth Climate Change Assessment. http://www.climateassessment.ca.gov/. Accessed: August 21, 2019.

State of California. 2019. California Climate Strategy. https://www.climatechange.ca.gov/. Accessed: August 21, 2019.

Transportation Agency for Monterey County. 2018. Final 2018 Monterey County Regional Transportation Plan. In coordination with the Association of Monterey Bay Area Governments. https://www.tamcmonterey.org/regional-transportation-plan. Accessed: October 1, 2020.

U.S. Department of Transportation (U.S. DOT). 2011. Policy Statement on Climate Change Adaptation. June. https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm. Accessed: August 21, 2019.

U.S. Environmental Protection Agency (U.S. EPA). 2009. Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act. https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean. Accessed: August 21, 2019.

U.S. Environmental Protection Agency (U.S. EPA). 2018. Inventory of U.S. Greenhouse Gas Emissions and Sinks. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks. Accessed: August 21, 2019.

U.S. Global Change Research Program (USGCRP). 2018. Fourth National Climate Assessment. https://nca2018.globalchange.gov/. Accessed: August 21, 2019.

Chapter 4 Comments and Coordination

Early and continuing coordination with the public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements.

Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings and project development team meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

4.1 Notice of Preparation

A Notice of Preparation for the project was circulated from April 13, 2020 to June 15, 2020 and mailed directly to the State Clearinghouse and responsible agencies. See Chapter 6 for a distribution list and Appendix C for the Notice of Preparation. Preparing and circulating a Notice of Preparation is typically the first step in the process of preparing an Environmental Impact Report. This process is completed to receive initial comments and feedback on the project and its potential environmental impacts from appropriate public agencies and the public.

4.2 Cultural Resources Coordination

Concurrent to notifying the California State Historic Preservation Office, Caltrans also notified the following about the project:

- Native American Heritage Commission
- Monterey County Historic Resources Review Board (https://www.co.monterey.ca.us/government/departments-a-h/clerk-of-the-board/boards-committees-and-commissions/historic-resources-review-board)
- Historic Bridge Foundation (https://historicbridgefoundation.com/)
- Monterey County Historical Society
- Carmel Heritage Society (https://www.carmelheritage.org/)
- Big Sur Historical Society

Caltrans will continue to consult with these organizations, and any other knowledgeable groups or individuals identified during this process, for all the Tier 2 (project-specific) analyses moving forward.

In addition, an Assembly Bill 52 consultation letter was distributed on August 21, 2018.

A consultation letter was sent to the State Historic Preservation Officer on August 31, 2020.

A Memorandum of Agreement between Caltrans and the State Historic Preservation Officer was reached on March 24, 2021.

Chapter 5 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

Robert Carr, Associate Landscape Architect. B.S., Landscape Architecture, California Polytechnic State University, San Luis Obispo; 29 years of experience preparing Visual Impact Assessments. Contribution: Prepared the Visual Impact Assessment.

Andrew Domingos, Associate Environmental Planner (Natural Sciences). B.S., Environmental Science Resource Management, California State University, Channel Islands; 10 years of experience in California biology. Contribution: Prepared the Natural Environment Study Minimal Impacts.

Raymond Gomez, Transportation Engineer (Civil). B.S., Environmental Engineering, Carroll College; 1 year of environmental engineering experience. Contribution: Prepared the Water Quality Assessment Report.

Krista Kiaha, Senior Environmental Planner. M.S., Anthropology, Idaho State University; B.A., Anthropology, University of California, Santa Cruz; more than 20 years of cultural resources experience. Contribution: Review of the Historic Properties Survey Report.

Joel Kloth, Engineering Geologist. B.S., Geology, California Lutheran University; more than 30 years of experience in petroleum geology, geotechnical geology, and environmental engineering/geology-hazardous waste. Contribution: Prepared the Hazardous Waste Studies.

Rajvi Koradia, Environmental Engineer. B.S., Environmental Engineering, L.D. College of Engineering, Ahmedabad, India; M.S., Civil and Environmental Engineering, San Jose State University; 2 years of environmental engineering experience. Contribution: Prepared the Air Quality Report.

Lindsay Kozub, Associate Environmental Planner (Architectural Historian). M.A., History/Cultural Resource Management, Colorado State University; B.A., History, University of Montana; B.S., Business, Montana State University; 10 years of experience in historical and architectural documentation, historic preservation, and cultural resource management. Contribution: Prepared the Architectural Survey Report.

Daniel Leckie, Associate Environmental Planner (Architectural History). M.S., Historic Preservation, The University of Vermont (2014); B.A., American History and Sociology, State University of New York (SUNY) at Stony Brook (2010); over 6 years of experience in the fields of Architectural History and Historic Preservation Planning. Contribution: Principal Architectural Historian. Prepared the Architectural Survey Report.

Isaac Leyva, Engineering Geologist. B.S., Geology; 29 years of experience in petroleum geology, environmental, and geotechnical engineering. Contribution: Prepared the Paleontology Report and Water Quality Assessment.

Christina MacDonald, Associate Environmental Planner (Arch). M.A., Cultural Resources Management, Sonoma State University; B.A., Anthropology, University of California, Los Angeles; 16 years of experience in California prehistoric and historical archaeology. Contribution: Oversaw and prepared the Historic Property Survey Report.

Karl Mikel, Transportation Engineer. B.S., Environmental Engineering; California Polytechnic University, San Luis Obispo; M.S., Civil and Environmental Engineering, California Polytechnic University, San Luis Obispo; 11 years of experience in environmental engineering. Contribution: Prepared the Air Quality, Noise, Greenhouse Gas, and Water Quality Assessments.

Scott Ostrau, Associate Environmental Planner. B.S., Environmental Policy Analysis and Planning, University of California, Davis; 3 years of environmental planning experience. Contribution: Prepared the Environmental Impact Report.

Michael Schmidt, National Pollutant Discharge Elimination System/ Stormwater Coordinator, Transportation Engineer. B.S., California Polytechnic State University, San Luis Obispo; 6 years of stormwater experience. Contribution: Prepared the Stormwater Report.

Jason Wilkinson, Senior Environmental Planner. B.S., Natural Resource Management, Minor in Geographical Information System (GIS), California Polytechnic State University, San Luis Obispo; 12 years of environmental planning experience. Contribution: Reviewed the Environmental Impact Report.

Chapter 6 Distribution List

The Environmental Impact Report was distributed to the following:

- Monterey County Planning Office, 1441 Schilling Place, Salinas, CA 93901
- Monterey County Free Libraries:
  - Buena Vista Branch, 18250 Tara Drive, Salinas, CA 93908
  - Big Sur Branch, Highway-1 at Ripplewood Resort, Big Sur, CA 93920
  - Carmel Valley Branch, 65 West Carmel Valley Road, Carmel Valley, CA 93924
- Transportation Agency of Monterey County, 55-B Plaza Circle, Salinas, CA 93901
- Velo Club Monterey, P.O. Box 1404, Monterey, CA 93942
- California Department of Parks and Recreation – Monterey District, 2211 Garden Road, Monterey, CA 93940
- California Department of Fish and Wildlife – Central Region, 1234 East Shaw Avenue, Fresno, CA 93710
- California Coastal Commission – Central Coast District, 725 Front Street, Suite 200, Santa Cruz, CA 95060
- Tami Grove, Transportation Program Manager, California Coastal Commission
- Sean Drake, Transportation Program Analyst, California Coastal Commission
- Joe Sidor - Monterey County - ceqacomments@co.monterey.ca.us
- Big Sur Land Use Advisory Committee
- Big Sur Kate (Local Blogger)
- State Clearinghouse
- State Historic Preservation Officer
- California Department of Fish and Wildlife – Steve Hulbert
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- State Parks
- Landels-Hill Big Creek Reserve
- University of California Natural Reserve System/University of California Santa Cruz

- City of Carmel
- City of Monterey
- California Highway Patrol
- Central Coast Regional Water Quality Control Board, Region 3
- U.S. Army Corps of Engineers
- California Department of Parks and Recreation
- Monterey County Historic Resource Review Board

Appendix A Title VI Policy Statement

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

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November 2019

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

Toks Omishakin
Director

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

Appendix B Avoidance, Minimization and/or Mitigation Summary

To be sure that all environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated in the proposed Environmental Commitments Record that follows) would be implemented. During project design, the avoidance, minimization, and/or mitigation measures would be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits would be obtained prior to implementation of the project. During construction, environmental and construction and engineering personnel would ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring would take place, as applicable.

Because the following Environmental Commitments Record is a draft, some fields have not been completed but would be filled out as each of the measures is implemented. Measures that address an impact considered significant under the California Environmental Quality Act are identified as mitigation measures (e.g., Mitigation Measure CUL-1). All other measures are avoidance or minimization measures.

To maintain these visual quality elements and decrease potential negative visual impacts caused by the project, the following actions are recommended:

1. Involve the community in the design of all aesthetic project features.
2. Use an open-style bridge rail that minimizes view blockage.
3. Use the smallest end blocks possible that meet safety needs.
4. Use finish colors and textures that minimize reflectivity and glare.
5. Re-contour all disturbed areas and construction access roads to a natural appearance.
6. Vegetate all stabilized soil areas with native shrubs and grasses as appropriate.
7. Bury all over-side drains and inlet structures or hide them from view to the greatest extent possible. Where unavoidably exposed to view, color the pipes to reduce noticeability, and dull the gloss of the finish.
8. Where metal beam guardrail or metal end treatments are required, use measures to reduce reflectivity of the metal components.

Cultural resource mitigation and minimization measures for the Tier 1 bridges will include context sensitive bridge railing design. The Tier 2 projects may

also include a public interpretive document (pamphlet or booklet) on the history of transportation and historical context of the bridges that will be distributed in the local area, and Historic American Engineering Record professional photographic and written documentation of the bridge to be prepared before the bridge railing is demolished. An interpretive exhibit may be installed in an area where it can provide a public benefit. The information in the exhibit will be on the history of transportation and historical context of the local area and can be installed in the project vicinity. The following mitigation measures are outlined in the Memorandum of Agreement between Caltrans and the State Historic Preservation Officer:

- Prior to the start of construction, Caltrans shall contact the regional Historic American Building Survey/Historic American Engineering Record/Historic American Landscape Survey coordinator at the National Park Service Interior Regions 8, 9, 10, and 12 Regional Office to request that the National Park Service stipulate the level of and procedures for completing the documentation. Within 10 days of receiving the National Park Service stipulation letter, Caltrans shall send a copy of the letter to all consulting parties for their information.
- Caltrans will ensure that all recordation documentation activities are performed or directly supervised by architects, historians, photographers, and/or other professionals meeting the qualification standards in the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations 61, Appendix A).
- Upon receipt of the National Park Service written acceptance letter, Caltrans will make archival, digital and bound library-quality copies of the documentation and provide them to the Monterey County Historic Resources Review Board, the Monterey County Historical Society, the Big Sur Historical Society, the Carmel Heritage Society, the California Office of Historic Preservation, the Central Coast Information Center, and the California State Library.
- Caltrans shall notify the State Historic Preservation Officer that the documentation is complete, and all copies distributed and include the completion of the documentation in the annual report. All field surveys shall be completed prior to the start of construction.

Tier 1 Mitigation Measures:

- Caltrans District 5 will hire qualified historical consultants to produce Primary Record Forms and Building Structure, Object Record Forms for all seven of the historic concrete arch bridges within the Carmel San Simeon Highway Historic District.
- The seven records will include the six open spandrel concrete arch bridges specifically mentioned in the Tier 1 document (Big Creek, Bixby Creek, Rocky Creek, Garrapata Creek, Granite Canyon, and Malpaso

Creek) as well as closed spandrel Wildcat Bridge, which is also a contributor in the Carmel San Simeon Highway Historic District and a thematically similar resource.

- The information for each bridge will focus solely on the individual bridges, their specific historic design context and will highlight each resource's specific history within the broader contextual landscape of social, economic, and cultural trends leading to the opening of State Route 1 in Monterey County. This measure responds directly to comments received from consulting parties, and particularly by the Monterey County Historic Resources Review Board in its November 2020 letter to Caltrans regarding the Garrapata Creek Bridge Rail Replacement project. This information will supplement and enhance the existing knowledge of the seven Big Sur Arched Bridges, but requires a more detailed and focused historical analysis of these significant resources.
- The information gathered for each bridge will be based on original research that expands on what is already known about these bridges which is contained the broader context of the Caltrans Statewide Historic Bridge Inventory and Carmel San Simeon Highway Historic District inventory forms.
- The documentation for each individual bridge will include information such as high-quality color and/or black-and-white photographs, historic photographs and/or drawings as appropriate, and text describing the bridge's history and character-defining features.
- Caltrans District 5 will documentation for each bridge to the Office of Historic Preservation; the California Room of the California State Library; Caltrans District 5; and Caltrans Headquarters Library and History Center as well as with all relevant consulting parties, including the Monterey County Historic Resources Review Board, the Monterey County Historical Society, the Big Sur Historical Society, the Carmel Heritage Society and the Historic Bridge Foundation on request.
- Caltrans District 5 will hire qualified consultants to develop and produce a lesson plan for elementary school-aged students that focuses on historic significance of the bridge designs using Scientific, Technological, Engineering, or Mathematical activities. The materials will include visual aids and activities that demonstrate the technical significance of the open spandrel concrete arch design.
- All components of the lesson plan will meet the Next Generation Science Standards that encourage an emphasis on engineering design for newly developed science curricula. They will also meet the History-Social Science Standards as defined by the California Department of Education to the extent they are applicable to the activities developed.

- The lesson plan will be hosted on the interpretive website, which can be further used as a resource to highlight the historic significance of the bridges as important engineering achievements.
- Caltrans will engage with the Monterey County Office of Education and the Monterey County Free Library System for distribution of the materials to ensure they are used and provide a benefit to the local community.

Interpretive Website:

- Caltrans District 5 will produce a website highlighting the history of the seven Big Sur Arched Bridges in a manner that is accessible to the general public and provides public benefit.
- The website will initially contain a main page focusing on the general history of the seven bridges included in the Tier 1 analysis, as well as at least one page focusing on the Garrapata Creek Bridge individually. The website will also include pages to host the historic and modern photographs, the historic context as developed, the lesson plans, and additional information on the engineering and transportation history of the bridges as is deemed appropriate through future studies. The website will be structured so that it may be updated and expanded with additional pages that focus on the Big Sur Arched Bridges impacted through the future bridge rail replacement projects outlined in the current Tier 1 analysis or any other projects impacting the Big Sur Arched Bridges.
- The website will be maintained for at least 10 years, and it is recognized that this time frame may be continually extended as additional projects mentioned in the Tier 1 analysis are proposed and implemented over time.

Appendix C Notice of Preparation

SCH NO. _____

NOTICE OF PREPARATION

To: State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

From: California Dept. of Transportation
50 Higuera Street
San Luis Obispo, CA 93401

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

Program Title (Tier I): Big Sur Bridge Rail Replacements

Program Location: State Highway 1 in Monterey County on the Big Sur Coast:

Bridge Name	Bridge Number	Post Mile	Year Constructed
Big Creek Bridge	44-0056	28.1	1938
Bixby Creek Bridge	44-0019	59.4	1932
Rocky Creek Bridge	44-0036	60.0	1932
Garrapata Creek Bridge	44-0018	63.0	1931
Granite Canyon Bridge	44-0012	64.3	1932
Malpaso Creek Bridge	44-0017	67.9	1935

Program Description: Caltrans proposes bridge rail replacements on six historic bridges along the Big Sur Coast to bring the facilities up to current standards.

Project Title (Tier II): Garrapata Creek Bridge Rail Replacement

Project Location: State Route 1 (Post Miles 63.0)

Project Description: Caltrans proposes a bridge rail replacement on the Garrapata Creek Bridge (No. 44-0018) to bring the facility up to current standards.

This is to inform you that the California Department of Transportation will be the lead agency and will prepare a (Tier I) Program Environmental Impact Report (EIR) and a project level (Tier II) EIR for the project described below. Your participation as a responsible agency is requested in the preparation and review of this document.

We invite your agency's input as to the scope and content of the environmental information that is relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

A more detailed project description, location map, and the potential environmental effects are included on the following pages of this NOP. A copy of the Initial Study is not attached.

Due to the time limits mandated by State law, your response must be sent **no later than 45 days** after receipt of this notice.

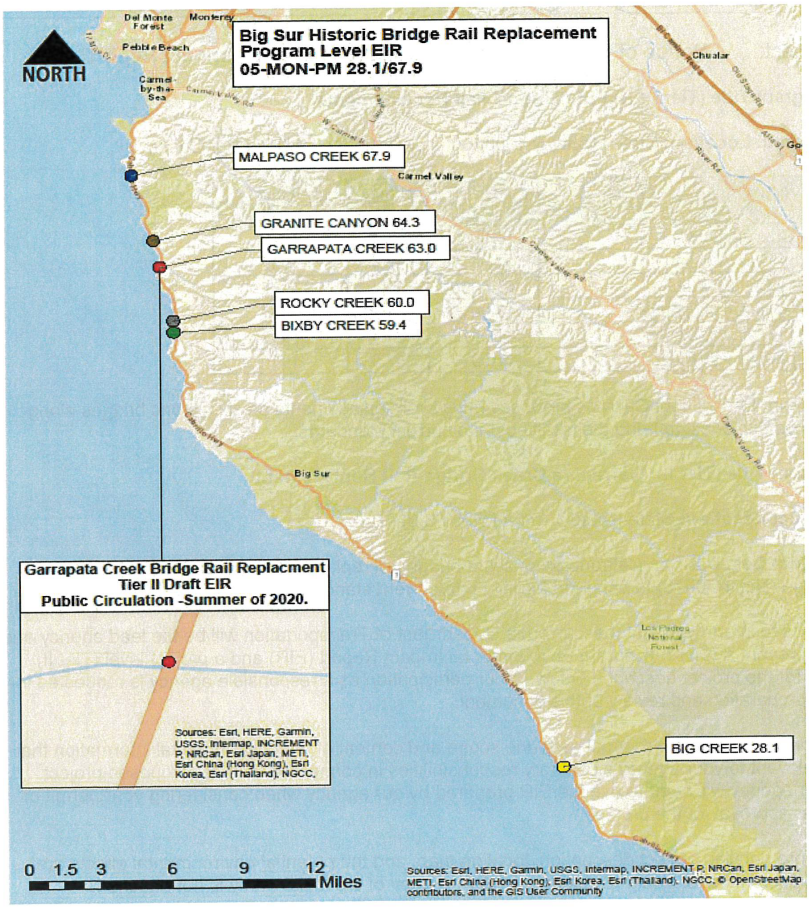
Please direct your response to Jason Wilkinson at the address shown above. Please supply us with the name for a contact person in your agency.

Date 4/10/20

Signature _____

Title Associate Environmental Planner

Location Map:



Project Description

Garrapata Creek Bridge (No. 44-0018) is an open-spandrel arch bridge that was constructed in 1931, widened in 1998 and seismically retrofitted in 1987 and 1998. Garrapata Creek Bridge is located at post mile 63.0 just south of Carmel, in Monterey County and is one of 7 historic arch bridges along State Route 1 on the Big Sur Coast. The bridge is 285-feet long and consists of 12-foot lanes and 0 to 1-foot shoulders.

This structure has nonstandard concrete baluster bridge rails on both sides of the structure. The rail end posts exhibit fine pattern cracking, and the barrier rail posts are severely deteriorated with dozens of incipient spalls and spalled posts in addition to previous impact damage.

The project on State Route 1 near Carmel-By-The-Sea in Monterey County proposes to replace the existing nonstandard concrete baluster bridge rail and approach railing on Garrapata Creek Bridge (No. 44-0018) at PM 63.0. The irreversible damage from pervasive salt laden fog has accelerated the overall deterioration of concrete and reinforcing steel of the bridge rail, warranting replacement.

Caltrans proposes to address these concerns with the 2 possible alternatives identified below:

Build Alternative: Proposes replacing the existing non-standard bridge rail and approach railing with new railing that meets current traffic safety standards.

No Build Alternative: The non-standard bridge rails would continue to deteriorate and would not be replaced.

Potential Environmental Impacts

The Draft Program EIR (Tier I) will address potential environmental effects of the proposed project for each of the environmental topics outlined in the CEQA guidelines, Appendix G. The proposed project may impact environmental resources, or may have the following effects, including:

- Visual/Aesthetic
  Due to the high degree of viewer sensitivity along State Route 1 and the adjacent public campground and beach, the project will be assessed for potential impacts to scenic vistas, alterations to visual character, and for consistency with the California Coastal Act, state Scenic Highway, National Scenic Byway, and Coast Highway Management Plan principles. Impacts to visual/aesthetic resources will be reduced through measures such as bridge rail design and treatment, planting, and other elements.

- Cultural Resources
  The project is located within the Carmel-San Simeon Highway Historic District, which is eligible for listing in the National Register of Historic Places. The Garrapata Creek Bridge is a contributor to the historic district and is also individually eligible for listing in the National Register. The existing bridge rail is a contributing element to the bridge's historic nature. Currently it is assumed that the bridge rail cannot be replaced in-kind and that the project will potentially result in an adverse effect to a historic resource. Section 106 Consultation will be required.

- Coastal Resources

- Cumulative Impacts

- Section 4(f)
- Biological resources

There would be no effects on paleontological resources, noise, hazardous waste, utilities, water quality, or air quality. The project would not affect planned land use. The project would not require the relocation of residences or businesses.

AGENCY COMMENTS

Agency input regarding the Scope of the EIR, environmental factors potentially affected, and project alternatives must be submitted to Caltrans no later than 5:00pm on May 29, 2020.

Written comments can be mailed to:
California Department of Transportation, District 5
50 Higuera Street
San Luis Obispo, CA 93401
Attention: Jason Wilkinson

Or emailed to:
Jason.wilkinson@dot.ca.gov

Appendix D Response to Comments

This appendix contains the comments received during the public circulation and comment period from November 25, 2020 to January 15, 2021, retyped for readability. We received more than 70 comment letters during the public circulation period. A Caltrans response follows each comment presented. Generally, the comments expressed complete opposition to the project, objection to the proposed replacement bridge rail designs, or simply stressed the importance that Caltrans implement a context sensitive bridge rail replacement in this historic and scenic project location. For the sake of efficiency, redundant comments were not included in this section. Copies of all the original comment letters and documents can be found in Volume 2 of this document.

(Note: The comments are shown below as received, so they may contain acronyms, abbreviations or grammatical errors as made by the authors.)

Comments from Coastal Commission

Comment 1:

As a preliminary matter, we strongly suggest expanding the “Purpose and Need” section of the DEIR to provide a more thorough justification for the project based on site-specific safety needs. We appreciate that the existing railings are deteriorating and do not comply with modern height, width, and performance standards for bridge railings, and that in this sense they are theoretically unsafe for a roadway with a 55 mile-per-hour (mph) speed limit. However, we observe that actual traffic speeds through Big Sur are generally well below 55 mph, especially in those areas around the historic bridges where motorists drive slowly to take in views of and from the bridge. As such, in order to establish that the need for the project is actual and not merely theoretical, the environmental document for each bridge should establish at the outset whether the existing railings have proven to be unsafe in practice. This analysis should cite to recent accident and traveling speed data and other similar objective measures to evaluate whether the existing railings present a demonstrable safety hazard. Caltrans should use this information to make the preliminary determinations of whether each bridge’s railings truly need to be replaced, and if so, whether they cannot be replaced in kind. Only upon reaching affirmative conclusions to both of those questions should Caltrans then consider replacement railing alternatives.

For example, regarding Garrapata Creek Bridge, DEIR Section 1.6.2 raises the possibility of lowering the speed limit through the bridge area from 55 to 45 mph in order to potentially allow for replacement of the bridge railings in-kind, but summarily concludes that this alternative “could not be justified.” However, it is not clear why this cannot be justified, nor does the DEIR cite to

any accident or traveling speed data for the site. In our view, the objective should be to ensure that any replacement matches the existing style as much as possible, including identically if that is possible, and that every effort needs to be made toward this end. As is, the DEIR does not appear to recognize this objective, and it should be modified to do so.

Response to Comment 1:

A speed zone survey for Garrapata Creek Bridge was completed in December 2019. The survey resulted in 85 percent of the surveyed vehicle speeds being above the posted 55 miles per hour speed limit. The 85th percentile speed at Garrapata Creek Bridge does not allow for Caltrans to reduce the speed limit without creating a speed trap. The traffic analysis determined reducing the speed limit could not be justified and replacing the railing in-kind would not meet current traffic safety standards for the posted speed limit of 55 miles per hour. Also, while walking across both Granite Canyon and Malpaso Creek Bridges, Caltrans workers observed cars traveling at speeds well above the posted speed limit.

A 3-year collision history was performed from January 1, 2012 to December 31, 2014, which yielded 5 total collisions from post miles 62.6 to 63.1. All 5 collisions occurred in the daytime and in dry roadway conditions. Of the 5 collisions, there were 3 injury collisions and 3 multi-vehicle collisions. The types of collisions were (2) Rear End, (1) Hit Object, (1) Broadside, and (1) Auto-Pedestrian. Primary Collision Factors were: (1) DUI, (1) Speeding, (1) Failure to Yield, (1) Other, and (1) Unknown. From the data collected, neither metal beam guardrail nor bridge rails were hit within the listed time frame and post miles.

Federal traffic safety systems guidance dictates when major work is done in a project that is receiving federal funds, as this project is, traffic safety systems must be upgraded to current standards. Due to these standards and the mandate that any change to a compliant safety device must be crash tested before implementation, in-kind replacement of the bridge rails is not feasible on Garrapata Creek Bridge.

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur Coast. Coastal Commission staff is also in coordination with this effort with Caltrans Headquarters staff. The design option and aesthetic treatments to the proposed bridge rails will be finalized during the Design phase of the project. Caltrans will seek input from resource agencies, interested stakeholders, and members of the Big Sur community. Prior to the bridge rail replacement project, Caltrans will also be doing a separate maintenance project in early summer to prolong the life of the Garrapata Creek Bridge structure by performing an electro-chemical chloride extraction.

Comment 2:

In the event that replacing the railings out-of-kind on any bridge is deemed necessary based on the analysis described above, we emphasize the importance of developing a design alternative for each bridge that matches the style and historic character of each bridge's existing railings as closely as possible, including as required by Section 3.3 of the BSCHMP Aesthetic Guidelines. Again, the existing style of the railings themselves is important for the iconic viewsheds, and any changes need to be minimized as much as possible. As part of this process, we urge that all possible alternatives be considered, including careful attention to whether reducing traffic speed limits at the bridges might open up a more desirable palette of potential railing replacements.

Response to Comment 2:

Caltrans is working with Coastal Commission at the headquarters level to develop a replacement bridge rail design option that is consistent with the Big Sur Coast Highway Management Plan's Aesthetic Guidelines and also meet the Manual for Accessing Safety Hardware standards. Both proposed replacement rail design options are the same height as the existing Garrapata Creek Bridge rails. Please see Table 1-1 for a comparison of the proposed replacement rails and the existing bridge rails.

As future projects are programmed on each Tier 2 project, all federally compliant bridge rail replacement options will be considered at each location. Caltrans' current analysis at Garrapata Creek Bridge does not preclude the potential of conducting traffic studies at other locations to determine the feasibility of speed limit reductions.

Comment 3:

In addition, we hope that Caltrans will continue to reach out to other states that are similarly working on ways to meet the new federal safety standards to learn if any of their designs might inform options for these bridges. Any changes to the existing railing styles, if ultimately proven to be warranted, not only need to speak to the historic nature of the bridges and their aesthetics, but also to the need to retain equivalent or better ocean views from the highway (e.g., by incorporating sufficient openings in the railing design for the traveling public to see through). As a side note, please be aware that, in parallel with this project, Coastal Commission staff is working with Caltrans designers at headquarters on the topic of identifying new options for replacing or emulating historic bridge railings, and we appreciate that projects such as this provide an opportunity to further develop approaches for marrying historic aesthetics with public safety.

Response to Comment 3:

On December 23, 2016, Caltrans adopted an implementation schedule whereby bridge railings on projects on the State Highway System advertised on or after October 31, 2019 must comply with the Manual for Assessing Safety Hardware criteria for all new permanent installations and full replacements. Also, after December 31, 2016, Caltrans no longer evaluates highway safety hardware that has not been successfully crash tested to the Manual for Assessing Safety Hardware standards.

Caltrans did not formally work with other states on ways to meet current federal safety standards. Research was conducted into how other states are complying with the mandated safety standards, and no examples of exceptions being implemented for historic resources were found. California is leading the way in the nationwide effort toward compliance with the Manual for Assessing Safety Hardware standards.

Please see Visual Resources section 2.1.2 for updated photo simulations of proposed bridge rail replacements on Garrapata Creek Bridge. The photo simulations have been modified to show larger and more rounded openings on the proposed rails. Bridge rail design options and aesthetic treatments will be finalized during the project design phase with input from the public and interested parties.

Comment 4:

Equally important will be designing the railings to match and reflect the underlying bridge structures so that their overall historic characters are maintained. As the rail replacement project for Garrapata Creek Bridge and for the other five historic bridges move forward, the inclusion of accurate and well-detailed visual simulations of possible alternatives in all project-related documents will be critical to assist reviewers' understanding and analysis. Any visual alterations associated with reinforcing and widening any of the existing bridge decks, as well as any alteration to roadside guardrails, crash cushions, or other features at either end of each bridge should also be described and rendered in the FEIR for Garrapata Creek Bridge and environmental documents for the other bridges. Again, we strongly believe that a co-equal and explicitly stated objective for the project (and for project EIRs and related documentation) needs to be retaining the style of all existing bridge railings and related elements as much as possible, and all efforts should be made toward this end.

Response to Comment 4:

A major project objective is to provide context sensitive bridge rail replacements on all of the historic structures. This will be achieved through the implementation of mitigation and minimization measures for visual and

historic resource impacts, outlined in Appendix B. Caltrans will seek input from the Big Sur Land Use Advisory Committee and work closely with Monterey County and the Coastal Commission during the Coastal Development Permitting process.

Comment 5:

Bracketing the fact that we do not believe that retention of the existing style can be ruled out yet based on the evidence provided to date, we appreciate that the DEIR includes images of the existing railings on Garrapata Creek Bridge as well as a photo-simulation of two of the replacement railing designs being considered (Type c412 and Type 86), though more simulations from various other angles both on the bridge and of the bridge would be helpful. To share some general observations on those two designs based on the simulation provided, Type c412 seems to be more similar to existing railings, and to provide slightly better see-through visibility, than Type 86. The simulation of Type c412 also appears to retain a few of the design details of the existing railings that the Type 86 does not, including the general proportion and distribution of the balusters, the length of each section of railing and the visible seams between sections, and greater similarity in the overall profile of the railing. However, it also presents as significantly more modern than existing railings and would appear to detract from the overall historic aesthetic. Again, we emphasize that Caltrans must continue to consider a broad suite of design alternatives beyond these two options in line with our comments above, and that Caltrans must engage Commission staff, Monterey County staff, and Monterey County's community review bodies, such as the architectural review committees and the Land Use Advisory Committees, in the process of narrowing down the pool of potential design options, rather than merely asking for feedback on Caltrans' selected final options, as appears to be the case with the DEIRs comparison of these two options for the Garrapata Bridge.

Response to Comment 5:

Please see Visual Resources section 2.1.2 for updated photo simulations of proposed bridge rail replacements on Garrapata Creek Bridge. The photo simulations have been modified to show front and angled views as well as larger and more rounded openings for the proposed rails. Bridge rail design options and aesthetic treatments will be finalized during the project design phase with input from the public and interested parties.

During the design phase of each proposed bridge rail replacement project, Caltrans will engage with Coastal Commission staff, Monterey County staff, and Monterey County's community review bodies, such as the architectural review committees and the Land Use Advisory Committees, in the process of selecting a potential design option and aesthetic treatments.

Comment 6:

Additionally, given that the bridges serve both as viewpoints for enjoying coastal views and as significant visual resources in and of themselves, construction activities during bridge railing replacements may present short-term or long-term visual resource impacts that may require compensatory mitigation. We strongly suggest that the FEIR and future documents for the other bridges describe the length of time that construction on each bridge's railings will take and evaluate potential visual resource mitigation options. Incorporating this evaluation into the environmental review process will save significant time during the CDP process by resolving any visual mitigation requirements in advance. We encourage Caltrans to work proactively with Coastal Commission and Monterey County staff to explore options for any appropriate visual mitigation that may be needed.

Response to Comment 6:

Construction on the Garrapata Creek Bridge Rail Replacement project is estimated to start in October 2023 and be completed by October 2024 with an estimated 220 working days. Caltrans will incorporate measures to reduce temporary visual impacts during construction.

Comment 7:

It is critical that Caltrans develop a design alternative for each bridge that limits temporary public recreational access impacts as much as possible, and that avoids any permanent public recreational access impacts. This includes maintaining existing shoulder widths along the bridges, or potentially increasing them on other bridges where appropriate. Future environmental review documents for the other five bridges should describe the amount by which Caltrans proposes to widen the existing bridge decks to accommodate the new railings, and should note any resulting changes to highway shoulder widths and their attendant potential impacts to the overall scenic quality of the structures. Moreover, any existing public access features currently built into a bridge (e.g., the public bench alcoves on Bixby Bridge,8 and the wide curbs on Malpaso Creek Bridge that serve as *de facto* pedestrian walkways) must be maintained as part of the railing replacement.

Caltrans should also incorporate certain provisions into the project to ensure that temporary recreational public access impacts due to construction are avoided as much as possible, and where avoidance is not possible, that they are minimized and mitigated. This includes maintaining pedestrian and bicycle access along the highway throughout construction and post-construction activities, as well as ensuring that construction activities (including staging and storage) are planned to avoid blocking access to established trailheads, coastal accessways, and parking areas. Given the limited space between the bridge railings and the roadway, we also presume

that the project will have unavoidable short-term traffic impacts associated with closing highway lanes and redirecting traffic during construction. The extent and duration of these impacts, as well as the estimated traffic delays, should be described in the EIR and the CDP application for each bridge in order for the relevant permitting agency to evaluate potential public recreational access impacts associated with construction, and Caltrans also needs to propose mitigation for such impacts as part of these processes as well. In addition, we ask that Caltrans creatively approach this project to determine if any reconfiguring of right-of-way, shoulders, parking areas, etc., associated with the planned activities might also open up opportunities to better address some of the many issues associated with traffic, parking, safety, resource deterioration, etc., at the various bridge locations, including as discussed in detail in District 5's recent Big Sur Sustainable TDM Plan.

Response to Comment 7:

Public recreation access, including bicycle and pedestrian traffic through the project area, will be maintained during construction activities. The project will implement a Traffic Management Plan to minimize and manage traffic delays during construction operations of the project. A staging area will likely take place at the pullout just south of the Garrapata Creek Bridge. Contractor use of the pullout to the north of the Garrapata Creek bridge will be restricted since it is used by the public for beach access.

Comment 8:

The Coastal Act and the Big Sur LUP require that new development assure continued biological productivity and that ESHA (and areas adjacent to ESHA) be protected against any significant disruption of habitat values (e.g., Coastal Act Sections 30230, 30231, and 30240, and LUP Policies 3.3.1 and 3.3.2). Given that the proposed project is limited to replacing existing bridge railings, we do not anticipate the project having significant biological resource impacts. However, given the unique and sensitive biological resources of the Big Sur coast, and the stringent resource protection policies of the Coastal Act and the Big Sur LUP, we emphasize that Caltrans must ensure that construction areas avoid ESHA and potential biological habitat impacts overall as much as possible. This includes areas designated for construction staging and storage. Any anticipated biological impacts and associated mitigation measures should be described in detail in the FEIR and future environmental documents for the other bridges.

Response to Comment 8:

The proposed Garrapata Creek Bridge Rail Replacement project is limited to replacing existing bridge railings and Caltrans does not anticipate the project having significant biological resource impacts. All potential staging areas have been surveyed, and measures will be implemented to ensure that there are

not impacts to Environmentally Sensitive Habitat Areas. The proposed project will have a Section 7 No Effect Finding on all listed threatened and endangered species and critical habitat within the project areas. U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration species lists were obtained for the project vicinity.

Marine habitat Environmentally Sensitive Habitat Areas occur along this section of the Big Sur coastline, but do not occur within the project area, and will not be impacted by the project. Also, the proposed project does not occur within a stream buffer, wetland setback, or any other setback areas.

The biological study area includes two plant communities: coastal scrub and ruderal/disturbed. No rare plant species and no special-status plant species were found during appropriately timed floristic surveys. The proposed project is expected to have No Effect on listed plant species and their designated critical habitat. Certain invasive/weedy plants occur within the biological study area, and measures will be implemented to avoid/minimize the spread of these species.

Potential impacts to biological resources for each Tier 2 bridge rail replacement project will be evaluated during the Project Approval and Environmental Document phase of each individual project.

Comment from Susan Perry

Cal Trans bridge repair planning needs to comply with the BSLUP. The proposed bridge repair plans under review do not meet the BSLUP in regard to preservation of visitor and residents' experience of and continuing access to the existing viewshed.

Response to Comment:

The design of the proposed replacement bridge rails will be consistent with the character of the existing bridges and complement the visual character of the rural coastal setting. The replacement bridge rails will have slightly different dimensions than the existing rails. The new rails will be designed to match the existing visual character of the bridges and the corridor, but they will not be an exact in-kind replacement. The community will be involved with the design of all aesthetic project features to minimize the visual impact of the replacement bridge rails. An open-style bridge rail that minimizes view blockage will be used, and it will use the smallest end blocks possible that meet safety needs. With the inclusion of mitigation and minimization measures, the project would not conflict with visual resources and community character policies in the Coastal Act or Big Sur Coast Land Use Plan. The project will not conflict with the Coastal Act or Big Sur Coast Land Use Plan policies relating to public access and recreation. The project would improve coastal access by increasing roadway reliability, efficiency, and safety.

Access to the existing viewshed will be retained through the implementation of context sensitive bridge rails that include sufficient openings.

Comment from Stephanie Reich:

I am opposed to the Caltrans plan to replace the historic railings on the historic Big Sur bridges with new, “less see through” railings. I understand full well that this particular highway needs consistent care and attention, with safety being paramount. However, the bridges are historic, and as such their historic character must be protected. The railings should be repaired or rebuilt, and the aesthetics of the bridges preserved. These bridges are a valuable cultural resource for all of California. Repair of existing railings will not compromise public safety and will continue to enhance the important experience of that amazing drive.

Response to Comment:

Please see Visual Resources section 2.1.2 for updated photo simulations of proposed bridge rail replacements on Garrapata Creek Bridge. The photo simulations have been modified to show front and angled views as well as larger and more rounded openings for the proposed rails. Bridge rail design options and aesthetic treatments will be finalized during the project design phase with input from the public and interested parties.

It is not feasible for Caltrans to repair the existing bridge rails or to replace them in-kind while still meeting current traffic safety standards for bridge rails. Replacing the rails in-kind would not meet current Manual for Assessing Safety Hardware standards (2016), or the previous 2009 Manual for Assessing Safety Hardware standards, and would not even meet the older 1993 standards that are outlined in the National Cooperative Highway Research Program Report 350.

Comment from Dan Reznick:

I have reviewed the proposed bridge rail changes and, like many of my fellow Big Sur residents, find them too lacking in character to become such a prominent part of the visual character of this precious place. I understand that Caltrans is working within strict parameters regarding their structure, however, more needs to be done regarding their aesthetic.

Certainly, replicating the existing rails would be best, even if one bridge's design had to be used for all, and they adhered to the current space-between-rails regulations. Or a few simple changes with the current design could help. Round off the edges and add grooves and such, in keeping with the original rails and other WPA era constructions.

Caltrans has done some amazing work replacing bridges in the area in recent years and has managed to maintain the character of this landmark region that

is visited by millions of people from around the world annually. Show off your stuff! Do Caltrans proud. Don't do mediocre work at one of the world's great landmarks.

Response to Comment:

Caltrans is confident working with the public and local agencies that we can provide a bridge rail that will be context sensitive for both the setting and community. Please see Visual Resources section 2.1.2 for updated photo simulations of proposed bridge rail replacements on Garrapata Creek Bridge. The photo simulations have been modified to show front and angled views as well as larger and more rounded openings for the proposed rails. Bridge rail design options and aesthetic treatments will be finalized during the project design phase with input from the public and interested parties.

Comment from Kenneth Wright:

The proposal to repair the Garrapata Bridge is understandable.

What is bothersome is if it is Historic then how can you alter the design and have it remain Historic. If Cal Trans replaces what is there then it is no longer the same. Of course there are safety issues, this entire highway is a safety issue always has been and it will continue to into the future.

It is also a All American Highway and a component of that criteria was the Historic Bridges. So perhaps the removal of that designation should be considered at this time. Just as the adding of more signs by Cal Trans after the most recent major construction project has added to the visual pollution to the detriment of an All American Highway.

The Coast Highway Management Plan which Cal Trans spent a considerable amount time and energy on discusses the importance of this Highway. One can only hope it is not sitting on a shelf collecting dust, as is the Big Sur Land Use Plan which discusses the Highway as important to the Big Sur Coast.

These undertakings by the agency are important to the safety of the traveling public I understand that aspect. There is also the need to find a way to maintain this corridor as it was created. It was not a transportation corridor it was scenic corridor in late June of 1937. If one reads the newspapers of that era proclaiming the opening one sees the expectations were of the scenic qualities that existed.

I would urge Caltrans to not be so eager to solve this engineering problem by abandoning their past. For it was the engineers of this agency that worked so hard to create this incredible corridor. Their legacy should be recalled and be held high.

I am a 50 year resident to the Big Sur Coast, I was on the Committee for the Coast Highway Management Plan, I was on the Committee that for the Big Sur Land Use Plan.

Response to Comment:

The proposed project will not affect the designation of All-American Highway for this corridor. While replacement of the historic bridge rails will result in a finding of adverse effect to the historic structure, it will not affect the bridge's eligibility for inclusion in the National Register of Historic Places.

Comment from Dana Carnazzo:

When we check the statistics, the present railings have not contributed to accidents or deaths by their design. When I contacted Caltrans about putting a fence below the viewing area at the north end of Bixby Bridge, Caltrans let me know that the data of falls and deaths does not support the need; it's basically safe. Please keep the existing designs. They help define this iconic drive and view.

Response to Comment:

The Garrapata Creek Bridge has nonstandard concrete baluster bridge rails on both sides of the structure. The rail end posts exhibit fine pattern cracking, and the barrier rail posts are severely deteriorated with dozens of spalls (flaking areas) and spalled posts, in addition to previous impact damage.

A 3-year collision history was run from January 1, 2012 to December 31, 2014, which yielded 5 total collisions, from post miles 62.6 to 63.10. All 5 collisions occurred in the daytime and in dry roadway conditions. Of the 5 collisions, there were 3 injury collisions and 3 multi-vehicle collisions. The types of collisions were (2) Rear End, (1) Hit Object, (1) Broadside, and (1) Auto-Pedestrian. Primary collision factors were: (1) DUI, (1) Speeding, (1) Failure to Yield, (1) Other, and (1) Unknown. From the data collected, neither metal beam guardrail nor bridge rails were hit within the listed time frame and post miles.

Comment from Steve Beck:

I've looked over the proposed changes to the rails on Big Sur's historic bridges. Safety of course is important but so are the aesthetic qualities of the coast. While millions of people cross the bridges annually, how many die or are seriously injured annually because of the railings. The new designs are awful. Please don't do this project or replace the rails with exactly the same design and finish as the original. Safety counts, aesthetics count more.

Response to Comment:

As the public agency in charge of ensuring the safety and reliability of the State Highway System, Caltrans must adhere to mandated safety requirements.

On December 23, 2016, Caltrans adopted an implementation schedule whereby bridge railings on projects on the State Highway System advertised on or after October 31, 2019 must comply with the Manual for Assessing Safety Hardware criteria for all new permanent installations and full replacements. Also, after December 31, 2016, Caltrans no longer evaluates highway safety hardware that has not been successfully crash tested to the Manual for Assessing Safety Hardware standards.

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur Coast. Coastal Commission staff is also in coordination with this effort with Caltrans Headquarters staff. The design option and aesthetic treatments to the proposed bridge rails will be finalized during the design phase of the project. Caltrans will seek input from resource agencies, members of the Big Sur community, and the Big Sur Land Use Advisory Committee.

Comments from the American Institute of Architects Monterey Bay Chapter

Comment 1:

We find that the proposed design of the Garrapata Creek bridge rails, what appears to be a stock prefabricated design, is not in keeping with the historic nature of the bridge. The proposed rails are bulky with smaller portals than what are currently there. The concrete finish appears to be dark and smooth, rather than the current lighter, textured concrete. The rail options should work with the elegant parabolic arch structure remaining light and transparent, mitigating any visual obstruction to the seascape. We feel this can be achieved even with the necessary structural upgrades. We also do not feel a taller rail is necessary as this would also block views to the surroundings. A stock design is not what these bridges deserve, but rather a design that enhances these highly traveled and photographed structures.

Response to Comment 1:

The proposed replacement bridge rails are not stock, prefabricated designs. The Type 86H rail is custom built for the Garrapata Bridge and the historic bridge structure rails on State Route 1 in Big Sur. The new rail design accommodates the increase in structural steel for today's safety standards. The historic replacement rails of today are being designed for the larger and heavier vehicles that travel along the corridor, compared to what was designed nearly a century ago with vehicles of that time.

Our Visual Assessment specialists from the Landscape Architecture group are selecting concrete color and texture finishes based on the existing structures and under varying natural daylight conditions. The seascape will remain visible through the new rail type from State Route 1.

Rail height of the new custom rail accommodates required bicycle safety standards. These have been in place several years, and we will not seek an exception to the current safety standard for bicycle height as we anticipate bicyclists continuing to enjoy this scenic roadway.

Please see the Comparison of Alternatives for Tier 1 and Tier 2 Section 1.5 and Table 1-1 for detailed dimensions of the proposed replacement bridge rails.

Comment 2:

Have the proposed designs been evaluated and given positive remarks by an architectural historian?

Has the design been reviewed and approved by the current Highway 1 Management Advisory Committee?

Has it been determined that the design is in keeping with the Big Sur Coast Management Plan?

Response to Comment 2:

Architectural historians are key members of our environmental studies team from the Cultural Studies group.

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur Coast. Coastal Commission staff is also in coordination with this effort with Caltrans Headquarters staff. The design option and aesthetic treatments to the proposed bridge rails will be finalized during the design phase of the project. Caltrans will seek input from resource agencies, interested stakeholders, and members of the Big Sur community. Prior to the bridge rail replacement project, Caltrans will also be doing a separate maintenance project in early summer to prolong the life of the Garrapata Creek Bridge structure by performing an electro-chemical chloride extraction.

The Big Sur Highway Management Plan was approved in March 2004. It applies to a 75-mile stretch of Highway 1 from the Carmel River to San Carpoforo Creek. The plan’s five key issue areas included storm damage response and repair, maintenance practices, scenic habitat conservation, public access and recreations, and plan implementation. The proposed project does not conflict, and is consistent, with the goals of the Big Sur Highway Management Plan.

Comment from Sean Fleming:

I was curious if there are other ways to retrofit the original railing to make it safer?

Response to Comment:

Caltrans must comply with the Manual for Assessing Safety Hardware criteria for all new permanent installations and full replacements. Due to this mandate, Caltrans must bring the bridge rail up to current safety standards, which could not be achieved through retrofitting the bridge rails.

Comment from Shawn Boyle, Air Quality Inspector, Monterey Bay Air Resources District:

I just want to assure that prior to the removal or disturbance of concrete railings, and other related building materials on the bridges, that the materials are thoroughly inspected for asbestos before construction activities. This is to prevent not only worker exposure to hazardous materials, but prevention of contaminating the surrounding environment and to assure materials to be crushed or disposed are free of asbestos. If the required asbestos survey, finds asbestos, then it can be properly handled and disposed accordingly with the proper trained and licensed workers. If any load-bearing removal is to occur as part of the projects, this action would require notification as a “demolition” activity. Information can be found on the MBARD website.

Response to Comment:

An asbestos and lead-containing paint survey report for the Garrapata Creek Bridge Rail Replacement project was prepared in November 2018.

Chrysotile asbestos at concentrations of less than 1 percent) was detected in samples representing concrete and sandbag mortar on the bridge. These samples were point-counted and determined to be less than 0.1 percent chrysotile asbestos. Asbestos was not detected in samples of other suspect materials collected during the survey.

Contractors performing disturbance to materials containing 0.1% or less asbestos (i.e., concrete) will not be subject to California Occupational Safety and Health Administration registration, certification, or notification requirements. However, compliance with certain elements (wet methods, prompt cleanup, air monitoring, etc.) of the California Occupational Safety and Health Administration asbestos standard (Title 8, California Code of Regulations Section 1529) will still be necessary. Notification to the Monterey Bay Unified Air Pollution Control District is not required for renovation work involving materials containing 0.1 percent or less asbestos.

Contractors who will be conducting demolition, renovation, or related activities will be notified of the presence of asbestos in their work areas. Personnel not trained for asbestos work will be instructed not to disturb asbestos. Written notification to the Monterey Bay Unified Air Pollution Control District will be required 10 working days before the start of any demolition activity (whether asbestos is present or not).

Comments from Butch Kronlund

Comment 1:

As the 6 historic Bridges are an intrinsic part of the reason this section of Highway 1 between Mal Paso Creek and San Carpoforo has been designated an "All American Road", has the DEIR considered allowable deviations from the current standards for guardrails? If not, why not?

As it is highly likely that masonry artisans employed by William Randolf Hearst played a role in building the molds and casting the original balustrades on the 6 Bridges, and as the Office of the State Architect may have a functioning mold shop operating at Hearst Castle, has there been an effort to explore recreating the castings with modern reinforcement?

Response to Comment 1:

Replacing the bridge rails in-kind would be a non-standard design option that would theoretically be more consistent with preserving visual character of the historic corridor. However, due to federal safety standards and the mandate that any change to a compliant safety device must be crash tested before implementation, in-kind replacement of the bridge rails is not feasible on Garrapata Creek Bridge.

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur Coast. The project design option and aesthetic treatments to the proposed bridge rails will be finalized during the design phase of the project. Caltrans will seek input from resource agencies, interested stakeholders, and members of the Big Sur community. Prior to the bridge rail replacement project, Caltrans will also be doing a maintenance project to prolong the life of the Garrapata Creek Bridge Structure by performing an electro-chemical chloride extraction.

Comment 2:

Please provide Bridge crash data associated with negative outcomes, that the proposed new guardrail design would solve.

Response to Comment 2:

A 3-year collision history was run from January 1, 2012 to December 31, 2014, which yielded 5 total collisions from post miles 62.6 to 63.10. All 5 collisions occurred in the daytime and in dry roadway conditions. Of the 5 collisions, there were 3 injury collisions and 3 multi-vehicle collisions. The types of collisions were (2) Rear End, (1) Hit Object, (1) Broadside, and (1) Auto-Pedestrian. Primary collision factors were: (1) DUI, (1) Speeding, (1) Failure to Yield, (1) Other, and (1) Unknown. From the data collected, neither metal beam guardrail nor bridge rails were hit within the listed time frame and post miles.

The new rail design accommodates the increase in structural steel for today's safety standards. The historic replacement rails of today are being designed for the larger and heavier vehicles that travel along the corridor, compared to those that were designed nearly a century ago for vehicles of that time.

Comments from Libby Barnes and Daniela De Sola

Comment 1:

Our firm finds that the proposed design of the bridge rails deserves a better solution, one that is in keeping with the historic nature of the bridges and which allows for visual access to the ocean and canyons they cross, yet still meets today's structural standards. Both the Type C412 and Type 86H simulations on page 42 and 43 of the Draft EIR appear bulky, with narrow portals which make it difficult to see through. The proposed rails concrete finish also appears to be a different finish than the current light, textured, look of the Bridge. The rail options should work with the elegant parabolic-arch structure and remain light and transparent, mitigating any visual obstruction to the seascape. A stock prefabricated design is not what these bridges deserve, but rather a custom design in keeping with the current rail, one that befits these highly traveled and photographed structures. We think this is possible.

Response to Comment 1:

The proposed replacement bridge rails are not stock, prefabricated designs. The Type 86H rail is custom built for the Garrapata Bridge and the historic bridge structure rails on State Route 1 in Big Sur. The Type C412 design variations are customized to be context sensitive for use on the Big Sur coast. Both new rail designs accommodate the increase in structural steel for today's safety standards. The historic replacement rails of today are being designed for the larger and heavier vehicles that travel along the corridor, compared to those designed nearly a century ago for vehicles of that time. Our Visual Assessment specialists from the Landscape Architecture group are selecting concrete color and texture finishes based on the existing

structures and under varying natural daylight conditions. The seascape will remain visible through the new rail type from State Route 1.

Comment 2:

What specific alternative railing designs were considered?

Response to Comment 2:

Caltrans worked to develop the Manual for Assessing Safety Hardware-compliant TL-4 rated concrete post-and-beam style Concrete Barrier Type 86H (“H” for Historic) specifically for use in Big Sur.

Caltrans has also considered use of the Texas Department of Transportation-approved Manual for Assessing Safety Hardware-compliant TL-4 rated TXDOT C412 concrete baluster bridge rail and the Manual for Assessing Safety Hardware-compliant TL-2 rated TxDOT C411 concrete baluster bridge rail (the C411 can be used only next to vehicular traffic that is signed for a regulatory [enforceable] speed limit of 45 miles per hour or less.

Comment 3:

Were non-standard design options more consistent with preserving the unique visual character included, as is allowed in the CHMP?

Was an exact replica of the current railings (or an exact replica with added height sufficient to address stated safety concerns) made with updated structural materials evaluated among the alternatives? If so, please provide these analyses. If not please reconsider an alternative solution that addresses our concerns.

Response to Comment 3:

Replacing the bridge rails in-kind would be a non-standard design option that would theoretically, if feasible, be more consistent with preserving visual character of the historic corridor. However, due to federal safety standards and the mandate that any change to a compliant safety device must be crash tested before implementation, in-kind replacement of the bridge rails is not feasible on Garrapata Creek Bridge.

Comment 4:

What specific criteria were used to select the current proposed design?

Response to Comment 4:

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur

Coast. Coastal Commission staff is also in coordination with this effort with Caltrans Headquarters staff. The design option and aesthetic treatments to the proposed bridge rails will be finalized during the design phase of the project. Caltrans will seek input from resource agencies, interested stakeholders, and members of the Big Sur community. Prior to the bridge rail replacement project, Caltrans will also be doing a separate maintenance project in early summer to prolong the life of the Garrapata Creek Bridge structure by performing an electro-chemical chloride extraction.

Comment 5:

Also, please reconsider decision in Section 1.6 on page 24 “Alternatives Considered but Eliminated…”, Item 1.6.2 Lowering the Speed Limit. Given that we enter and exit our driveway just north of the Bridge every day and have witnessed not only the increased attendance of visitors, many whom cross the highway to reach Garrapata Beach, but also a number of accidents. Lowering the speed limit along this corridor would greatly benefit the safety of everyone. Please reconsider an alternative solution that addresses these concerns. Our firm would be more than willing to work with Caltrans in finding a new solution.

Response to Comment 5:

Section 1.6 Alternatives Considered but Eliminated has been updated with traffic data to support Caltrans’ findings.

Comment from John Duval:

Caltrans should use fiberglass rebar instead of steel rebar which corrodes and breaks-out concrete.

Response to Comment:

The new rail design options accommodate the increase in structural steel for today’s safety standards. The historic replacement rails of today are being designed for the larger and heavier vehicles that travel along the corridor, compared to what was designed nearly a century ago with vehicles of that time. Prior to the bridge rail replacement project, Caltrans will also be doing a maintenance project to prolong the life of the Garrapata Creek Bridge structure by performing an electro-chemical chloride extraction.

Comments from the Malpaso Creek Property Association

Comment 1:

In reviewing the pictures of the proposed rail design, we feel the rails are too modern and bulky to blend with the elegant architecture of the bridges. It appears the new traffic safety requirements for concrete rails do not allow the

concrete bridge rails to be as transparent as they originally were, thus leading to some cumbersome design solutions. The proposed bridge rails appear to be prefabricated TxDOT concrete rails which, although have been used on other historic bridges across the nation, still have a contemporary manufactured look to them. The Task Force 13 TX411 would be the closest to what would be keeping with the bridges style but would need to be modified to complement the architecture of the bridges. We also have some concerns about the finish of the proposed concrete rails. If the finish is to be exposed concrete, would they match the existing exposed concrete finish of the bridges? Perhaps sandblasting them would give them a more rustic and distressed look. Painted or coated concrete rails would not be in keeping with the look of the bridges.

Response to Comment 1:

The proposed replacement bridge rails are not stock, prefabricated designs. The Type 86H rail is custom built for the Garrapata Bridge and the historic bridge structure rails on State Route in Big Sur. The new rail design accommodates the increase in structural steel for today's safety standards. The historic replacement rails of today are being designed for the larger and heavier vehicles that travel along the corridor, compared to what was designed nearly a century ago with vehicles of that time. Our Visual Assessment specialists from the Landscape Architecture group are selecting concrete color and texture finishes based on the existing structures and under varying natural daylight conditions. Please see the Visual Resources Section 2.1.2 for updated photo simulations of the proposed bridge rail replacement options.

Comment 2:

Another solution could be to use "stealth" railings where the original concrete rails are replicated with additional reinforcing steel cables to meet the current traffic safety standards. This was done in Oregon on the Rogue River, Rocky Creek and the Gold Beach Bridges.

Another thing to consider is that when one is traveling across one of our Big Sur bridges, it is difficult to see through the rail - especially if one is seated in a standard car. The best views afforded are above the rail which are often seen from a large truck or SUV. Perhaps creating a guard rail like that on the Wildcat Bridge in Carmel Highlands might be a more appropriate design solution within the historical context of our coastal bridges.

Response to Comment 2:

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur Coast. Coastal Commission staff is also in coordination with this effort with

Caltrans Headquarters staff. The design option and aesthetic treatments to the proposed bridge rails will be finalized during the design phase of the project. Caltrans will seek input from resource agencies, interested stakeholders, and members of the Big Sur community. Prior to the bridge rail replacement project, Caltrans will also be doing a separate maintenance project in early summer to prolong the life of the Garrapata Creek Bridge structure by performing an electro-chemical chloride extraction.

Comment 3:

We also would like to know the schedule of the work to be performed on each bridge. Several years ago, an electrochemical chloride extraction procedure was done on the Mal Paso Bridge that took longer than anticipated, resulting in the bridge being covered with scaffolding and deteriorating plastic wrap for over a year.

Response to Comment 3:

Construction on the Garrapata Creek Bridge Rail Replacement project is estimated to start in October 2023 and be completed by October 2024 with an estimated 220 working days. Caltrans will incorporate measures to reduce temporary visual impacts during construction. Construction timelines for work on the other bridges will be determined during the Project Approval and Environmental Document phase of each subsequent project.

In response to feedback regarding the Malpaso Creek Bridge electrochemical chloride extraction project, Caltrans is working to be more efficient in subsequent electrochemical chloride extraction projects in Big Sur. The electrochemical chloride extraction project that is currently in construction on Big Creek Bridge is on track to be completed ahead of schedule. The decrease in the amount of time that bridge needs to be covered relates to a decrease in temporary visual impacts during construction.

The Garrapata Creek Bridge Rail Replacement project will require the use of a debris containment system installed on the underside of the bridge to ensure that no debris can enter Garrapata Creek.

Comments from Martha Diehl

Comment 1:

How many people annually view, photograph, paint, visit or otherwise experience the Garrapata Bridge and the other historic bridges listed? How many vehicles crossed Garrapata Bridge during 2020? How many vehicles of what varieties are anticipated to cross the bridge annually in future years? Absent this information, how can the identified significant visual/aesthetic impacts of the proposed project be appropriately analytically weighted when comparing alternatives?

Response to Comment 1:

It is hard for Caltrans to determine how many people experience the Historic Bridges in Big Sur, but we understand the importance of these cherished resources. Traffic rates and future traffic demand do not preclude the need for Caltrans to adhere to federally mandated traffic safety standards for the structures within the State Highway System.

Comment 2:

Is the design proposed for the Garrapata Bridge intended for use on all listed bridge rail replacements? Is there a stated commitment to ensuring that the bridges continue to be visually consistent?

Response to Comment 2:

The proposed bridge rail design options were developed with the intention of being suitable for all of the listed bridge rail replacements. However, each bridge will be evaluated separately for specific rail options and aesthetic treatments. All replacement bridge railings will be visually consistent and appropriate for the Big Sur corridor. Caltrans will seek input regarding design options and aesthetic treatments on the replacement bridge rails from the Land Use Advisory Committee, local agencies, and the Big Sur community.

Comment 3:

How will construction of the proposed project impact public access to heavily used Garrapata Beach, including parking and ongoing traffic management? Traffic conditions in the immediate vicinity of the Garrapata Bridge are intermittently and increasingly impassable and unsafe. This is also the case for others of the historic bridges included in the overall project level analysis. Specifically, what analysis supports the determination that the identified potential temporary construction related traffic impacts will not be significant (see DEIR table p vii traffic & transportation)?

Response to Comment 3:

Public recreation access, including bicycle and pedestrian traffic, through the project area during construction will not be restricted. The project will implement a Traffic Management Plan to minimize and manage traffic delays during construction operations of the project. A staging area will likely take place at the pullout just south of the Garrapata Creek Bridge. Use of the pullout to the north of the bridge will be restricted since it is used by the public for beach access.

Comment 4:

How exactly were the proposed projects determined to be consistent with the Big Sur Land Use Plan and the Coast Highway Management Plan? How were the goals and priorities that caused this road section to be designated as a Scenic Byway and one of our country's first federally recognized All-American Roads considered? Please provide complete analysis methods, process and results.

What specific alternative railing designs were considered? Were non-standard design options more consistent with preserving the unique visual character included, as is allowed in the CHMP? What specific criteria were used to select the current proposed design? Was an exact replica of the current railings (or an exact replica with added height sufficient to address stated safety concerns) made with updated structural materials evaluated among the alternatives? If so, please provide these analyses. If not please perform them.

Response to Comment 4:

Replacing the bridge rails in-kind would be a non-standard design option that would theoretically be more consistent with preserving visual character of the historic corridor. However, due to federal safety standards and the mandate that any change to a compliant safety device must be crash tested before implementation, in-kind replacement of the bridge rails is not feasible on Garrapata Creek Bridge. Please see section 2.1.2 for more details regarding the proposed project's consistency with aesthetic guidelines developed in the Big Sur Coast Highway Management Plan.

Caltrans worked to develop the Manual for Assessing Safety Hardware-compliant TL-4 rated concrete post-and-beam style Concrete Barrier Type 86H ("H" for Historic) specifically for use in Big Sur. Caltrans has also considered use of the Texas Department of Transportation-approved Manual for Assessing Safety Hardware-compliant TL-4 rated TXDOT C412 concrete baluster bridge rail and the Manual for Assessing Safety Hardware-compliant TL-2 rated TxDOT C411 concrete baluster bridge rail (the C411 can be used only next to vehicular traffic that is signed for a regulatory [enforceable] speed limit of 45 miles per hour or less).

Comment 5:

How many injury accidents related to the existing railing structure or design have occurred in the history of these bridges? This information will assist in determining the relative importance of proposed upgraded safety requirements to the almost inestimable value of the current bridge aesthetics.

Response to Comment 5:

A 3-year collision history was run from January 1, 2012 to December 31, 2014, which yielded 5 total collisions, from post miles 62.6 to 63.10. All 5 collisions occurred in the daytime and in dry roadway conditions. Of the 5 collisions, there were 3 injury collisions and 3 multi-vehicle collisions. The types of collisions were (2) Rear End, (1) Hit Object, (1) Broadside, and (1) Auto-Pedestrian. Primary collision factors were: (1) DUI, (1) Speeding, (1) Failure to Yield, (1) Other, and (1) Unknown. From the data collected, neither metal beam guardrail nor bridge rails were hit within the listed time frame and post miles.

Comment 6:

What efforts have been made to engage immediate neighbors or easement holders in the project vicinity with impacts during construction? How will nearby residents' access be affected by proposed construction?

Response to Comment 6:

All adjacent landowners were notified during the public circulation period of the draft environmental impact report. Notification was also provided to Monterey County, the California Coastal Commission, relevant Big Sur advisory groups, local blogs, and NGOs. Also, a newspaper ad was published in the *Monterey Herald* and *Carmel Pinecone* requesting comments on the Draft Environmental Impact Report. Please see Chapter 6 of this document for a full distribution list.

Public recreation access, including bicycle and pedestrian traffic through the project area during construction, will be maintained during construction. The project will implement a Traffic Management Plan to minimize and manage traffic delays during construction operations of the project. A staging area will likely take place at the pullout just south of the Garrapata Creek Bridge. Contractor use of the pullout to the north of the bridge will be restricted since it is used by the public for beach access. All work will be within the state right-of-way.

Comment 7:

Have other projects such as bridge-related maintenance or utility upgrade needs been considered with proposed project timing? Given the current ongoing severe traffic congestion in this area, can schedules for all reasonably foreseeable infrastructure projects in this vicinity be coordinated so as to avoid multiple sequential project traffic flow impacts?

Response to Comment 7:

Caltrans has planned out multiple projects within the corridor to allow for ease of construction and to minimize traffic impacts. The timing of Caltrans projects throughout Big Sur is planned efficiently to conserve resources and reduce congestion.

Comments from Aengus L. Jeffers on behalf of Bixby Rock LLC

Comment 1:

CEQA requires that all aspects of a proposed project be analyzed early in the planning process and prohibits project proponents from using tiered EIR's to delay the assessment of reasonably understood and foreseeable project impacts. The DEIR fails these obligations in that it proposes statements of overriding concern regarding the historical and visual impacts of the proposed replacement bridge rails without fully assessing the need for upgraded bridge rails based upon the reality of traffic speeds and accidents on these bridges and without providing an assessment of all of the available bridge rail design options which might preserve blue water ocean views through these rails to mitigate the historical impact of any bridge rail replacements. These assessments are clearly available now while discrete bridge rail designs are being proposed for Garrapata Bridge and thus should not be delayed for a future project level assessment for the remaining bridges.

Response to Comment 1:

The project is needed due to severe deterioration of bridge rails as well as a need to adhere to current traffic safety standards. Traffic speeds and accident data are factors that strengthen the need for the project, but the bridge rail replacement projects are justified regardless of traffic or accident data. Structural failure and federal safety standards are the main drivers behind the proposed bridge rail replacement projects.

Tiering the Environmental Impact Report allows for more in-depth analysis of each bridge location as each project gets programmed. Tiering refers to the coverage of general matters in broader Environmental Impact Reports (Tier 1) with subsequent narrower Environmental Impact Reports (Tier 2) or ultimately site-specific Environmental Impact Reports incorporating by reference the general discussions and concentrating solely on issues specific to the Environmental Impact Report subsequently prepared. The California Environmental Quality Act encourages the use of Program Environmental Impact Reports in projects with a series of actions or activities that can be characterized as one large project and are related either: geographically, as logical parts of a chain of activities, in connection with plans or other general criteria governing a continuing program, as individual activities carried out under common authority and having similar environmental effects which can

be mitigated in similar ways. The Program Environmental Impact Report containing Tier 1 and Tier 2 analysis prepared for the proposed project is consistent with California Environmental Quality Act guidance regarding the use of tiering of environmental documents.

Please see the Summary section of this document as well as Section 2.1.2 for more information regarding tiering and the strategies to reduce Tier 1 visual impacts.

Comment 2:

Bixby Rock LLC and I, strongly recommend that Caltrans delay preparation of a Final EIR for this Project to provide a meaningful opportunity for Caltrans to work with the Big Sur Community, the County of Monterey, and the California Coastal Commission to assess the replacement bridge rails that best mitigate historical and visual impacts if the upgraded bridge rails are determined to be necessary based upon the reality of traffic speeds and accident history over these bridges. To do otherwise would, in violation of CEQA, use a 'programmatic EIR' for no other purpose than to delay analysis of the most critical impacts associated with this Project.

Response to Comment 2:

Caltrans has been working with the State Historic Preservation Officer, the Coastal Commission, and the Big Sur community throughout the project development process. This process includes the Notice of Preparation and circulation of the draft environmental document, and it will continue through collaboration with the public and stakeholders during the coastal development permit process. The use of a programmatic Environmental Impact Report is warranted in this situation due to the common impacts associated with solely replacing the bridge rails on each historic bridge. The scope of each future project might differ slightly, leading to potentially different impacts that can be analyzed through the Tier 2 analysis.

Comment 3:

The overriding land use policy in the Big Sur Local Coastal Program ("LCP") is the preservation of open space and blue water views for the general public. The significance of this policy is best understood within the context of the Critical Viewshed Prohibition which (except for specifically enumerated exceptions) prohibits development which is either visible from Highway One (regardless of scope) or which blocks public views. The proposed replacement bridge rails for Garrapata Bridge (and hence the likely bridge rail design for the other 5 bridges) would, if adopted, clearly impact the public's blue water views while traveling across these bridges while also impacting the historical integrity of these bridges.

Response to Comment 3:

Please see the Visual Resources Section 2.1.2 for updated renderings that show improved openings compared with the existing bridge rails for enhancing existing blue water views. Please note, the proposed bridge rails are the same height as the existing bridge rail.

A major project objective is to provide context sensitive bridge rail replacements on all of the historic structures. This will be achieved through the implementation of mitigation and minimization measures for visual and historic resource impacts, outlined in Appendix B. Caltrans will seek input from the Big Sur Land Use Advisory Committee and work closely with Monterey County and the Coastal Commission during the Coastal Development Permitting process.

Comment 4:

Mitigation and minimization measures for the Tier 1 bridges are proposed to include community involvement in the design of all aesthetic project features and are proposed to include “context sensitive bridge rail design.” However, this outreach effort needs to happen now and not later to avoid impacts to Garrapata Bridge and architectural consistency for the remaining bridges. Figures 1-12 and 1-13 in the DEIR depict photo simulations of two types of barriers proposed for the Garrapata Bridge. Won’t these two types of bridge rails also be used on the other six bridges?

Response to Comment 4:

Caltrans is currently designing and crash testing a bridge rail that is compliant with current traffic safety standards and is context sensitive for the Big Sur Coast. The project design option and aesthetic treatments to the proposed bridge rails will be finalized with input from resource agencies, interested stakeholders, and members of the Big Sur community.

The proposed bridge rail design options were developed with the intention of being suitable for all of the listed bridge rail replacements. However, each bridge will be analyzed separately for use of specific rail designs and aesthetic treatment. All replacement bridge railings will be visually consistent and appropriate for the Big Sur corridor.

Comment 5:

The DEIR states that current safety standards require that the new railing be slightly taller than the existing historic rails based upon the posted speed limits for this stretch of Highway One. How much is “slightly taller” as this will impact more blue water views?

Response to Comment 5:

The Draft Environmental Impact Report incorrectly stated that the proposed replacement bridge rails would be “slightly taller” than the existing height of the bridge rails on Garrapata Creek Bridge. The existing bridge rails are 42 inches tall, and the proposed bridge rail replacements will also be 42 inches tall in adherence to current traffic safety standards.

Please see the Comparison of Alternatives for Tier 1 and Tier 2 Section 1.5 and Table 1-1 for detailed dimensions of the proposed replacement bridge rails.

Comment 6:

What consideration was given to lowering the speed on Highway One at the bridge locations? While it may be impractical to lower the speed limit on some of the other bridges, Bixby Bridge rarely has fast traffic on it, due to the crowds, the traffic, the curved approach, and the views. The DEIR should analyze current speeds and accident history at all the bridge locations to justify upgrading these rails and consider posting lowered speed limits as a project alternative to preserve public views and these historical resources.

Response to Comment 6:

Please see Section 1.7 Alternatives Considered but Eliminated from Further Discussion.

Comment 7:

CEQA requires that an EIR identify mitigation measures which are both effective and enforceable. The Avoidance, Minimization and/or Mitigation Measures for Visual / Aesthetic and Cultural Resources impacts fail to identify how they will be effective in minimizing the impacts of the Project and how they will be enforceable.

Response to Comment 7:

Please see Appendix B Avoidance, Mitigation and Minimization Summary for measures that are included to minimize impacts to Cultural and Visual resources. Furthermore, Caltrans will prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval.

Appendix E Memorandum of Agreement

This appendix contains the Memorandum of Agreement between the California Department of Transportation and the California State Historic Preservation Officer regarding the Garrapata Creek Bridge Replacement Project, Monterey County, California.

MEMORANDUM OF AGREEMENT
BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE GARRAPATA CREEK BRIDGE RAIL REPLACEMENT PROJECT, MONTEREY COUNTY, CALIFORNIA

WHEREAS, pursuant to §23 U.S.C. the Federal Highway Administration (FHWA), has assigned and California Department of Transportation (Caltrans, including all subordinate divisions defined below) has assumed FHWA responsibility for environmental review, consultation, and coordination under the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Project Delivery Program Pursuant to 23 U.S.C. 327*, which became effective on December 23, 2016, and applies to this undertaking; and,

WHEREAS, pursuant to the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA), Caltrans is deemed to be a federal agency for all highway-aid projects it has assumed, and in that capacity Caltrans has assigned the role of "agency official" to the Caltrans Division of Environmental Analysis (DEA) Chief for the purpose of compliance with 36 CFR 800 and is responsible for oversight of District environmental responsibilities. To provide for effective compliance, day-to-day responsibilities and coordination of the Section 106 process are further delegated to the DEA Cultural Studies Office (CSO) Chief; and

WHEREAS, Caltrans proposes to implement the federally funded Garrapata Creek Bridge Rail Replacement Project (Undertaking), which will remove and replace the rails on the Garrapata Creek Bridge (Bridge No. 44 0018), a State-owned bridge located at post mile 62.97 on State Route 1 near Big Sur, an unincorporated community along the Big Sur Coast in Monterey County, as described in Attachment A to this Memorandum of Agreement (MOA); and

WHEREAS, the Undertaking's Area of Potential Effects (APE), included in Attachment B, includes all areas where work is proposed and the known or reasonably anticipated boundaries of any built environment or archaeological resources, which may experience direct or indirect effects as a result of the Undertaking; and

WHEREAS, Caltrans has determined that the Undertaking will have an adverse effect on the Garrapata Creek Bridge (No. 44 0018), a property determined to be eligible for inclusion in the National Register of Historic Places (National Register); and

WHEREAS, Caltrans has consulted with the California State Historic Preservation Officer (SHPO) pursuant to stipulation X.C and XI of the Section 106 PA, and where the Section 106 PA so directs, in accordance with 36 CFR Part 800, the regulation that implements Section 106 of the National Historic preservation Act of 1966 (16 U.S.C. 470f), as amended, regarding the Undertaking's effect on historic properties; and

WHEREAS, Caltrans, in consultation with the SHPO, has thoroughly considered alternatives to this Undertaking and has determined that the Undertaking's adverse effects cannot be avoided, and that implementation of the treatments set forth in Stipulation II of this MOA will satisfactorily take into account the Undertaking's adverse effects on the historic property; and

WHEREAS, Caltrans District 5 has a responsibility to fulfill the terms of this MOA and is participating as an invited signatory; and

NOW, THEREFORE, Caltrans and the SHPO agree that if the Undertaking proceeds, the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and further agree that these stipulations shall govern the Undertaking and all of its parts until this MOA expires or is terminated.

STIPULATIONS

Caltrans shall ensure that the following stipulations are carried out:

I. AREA OF POTENTIAL EFFECT

A. The Area of Potential Effect (APE) was designated in accordance with Stipulation VIII.A of the Section 106 PA and is depicted in Attachment B of this MOA. The APE includes the entire area where the project may have potential to directly or indirectly affect cultural resources. This includes the footprint and area immediately surrounding the bridge, any areas where ground disturbance or work in the creek may occur, and associated construction access and staging areas. The Garrapata Creek Bridge (No. 44 0018) and the Carmel San Simeon Highway Historic District (CSSHHD), of which the bridge is a contributing element, are the only two (2) historic properties located within the APE.

B. If Caltrans determines that additional APE revisions are necessary subsequent to the execution of this MOA, Caltrans shall inform the parties to the MOA of the revisions and consult for no more than 15 days to reach agreement on the proposed revisions. If Caltrans, the SHPO, and other appropriate signatories cannot reach such agreement, then the parties to this MOA shall resolve the dispute in accordance with Stipulation VI.C below. If all parties reach mutual agreement on the proposed revisions, Caltrans will submit a new APE map reflecting the revisions, consistent with Stipulation VIII.A and Attachment 3 of the Section 106 PA, no later than 30 days following such agreement. Any further investigation or document necessitated by the revised APE will follow the procedures for the identification and evaluation of potential Historic Properties as specified in Stipulation VIII of the Section 106 PA and in accordance with 36 CFR §800.4(a)(2-4) and 88.4(b). Amendment of the APE will not require an amendment to the MOA. The revised APE and supporting documentation shall be incorporated into Attachment B to this MOA.

II. TREATMENT OF HISTORIC PROPERTIES

A. Historic American Engineering Record (HAER)

1. Prior to the start of construction, Caltrans shall contact the regional Historic American Building Survey/Historic American Engineering Record/Historic American Landscape Survey (HABS/HAER/HALS) coordinator at the National Park Service Interior Regions 8, 9, 10, and 12 Regional Office (NPS) to request that NPS stipulate the level of and procedures for completing the documentation. Within ten (10) days of receiving the NPS stipulation letter, Caltrans shall send a copy of the letter to all consulting parties for their information.
2. Caltrans will ensure that all recordation documentation activities are performed or directly supervised by architects, historians, photographers, and/or other professionals meeting the qualification standards in the Secretary of Interior's Professional Qualification Standards (36 CFR 61, Appendix A).
3. Upon receipt of the NPS written acceptance letter, Caltrans will make archival, digital and bound library-quality copies of the documentation and provide them to the Monterey County Historic Resources Review Board, the Monterey County Historical Society, the Big Sur Historical Society, the Carmel Heritage Society, the California Office of Historic Preservation, the Central Coast Information Center, and the California State Library.
4. Caltrans shall notify SHPO that the documentation is complete and all copies distributed, as outlined in Stipulation II.3, and include the completion of the documentation in the annual report. All field surveys shall be completed prior to the start of construction.

B. Completion of DPR 523 Inventory Forms for all seven (7) Big Sur Arches

1. Caltrans District 5 will hire qualified historical consultants to produce DPR 523 forms, including Primary Record Forms and Building Structure, Object Record Forms for all seven (7) of the historic concrete arch bridges within the Carmel San Simeon Highway Historic District (CSSHHD).
2. The seven DPR 523 records will include the six open spandrel concrete arch bridges specifically mentioned in the Tier I document (Big Creek, Bixby Creek, Rocky Creek, Garrapata Creek, Granite Canyon, & Malpaso Creek) as well as closed spandrel Wildcat Bridge, which is also a contributor in the CSSHHD and a thematically similar resource.
3. The information in the individual DPR 523 forms for each bridge will focus solely on the individual bridges, their specific historic design context and will highlight each resource's specific history within the broader contextual landscape of social, economic, and cultural trends leading to the opening of State Route 1 (SR-1) in Monterey County. This measure responds directly to comments received from consulting parties, and particularly by The Monterey County Historic Resources Review Board (MCHRRB) in their November 2020 letter to Caltrans regarding the Garrapata Creek Bridge Rail Replacement Project. This information will supplement and enhance the existing knowledge of the seven (7) Big Sur Arches, but requires a more detailed and focused historical analysis of these significant resources. As the current best historical information Caltrans has developed about each of the "Big Sur Arches" is limited to the broad focus of the Caltrans Statewide Historic Bridge Inventory and as contributing

features within the context of the district wide DPR 523 form for the entire CSSHHD, the value in updating the historical information on the these important bridges is recognized.

4. The information in the DPR Forms, including Primary Records and BSO Records, will be based on original research that expands on what is already known about these bridges which is contained the broader context of the Caltrans Statewide Historic Bridge Inventory and Carmel San Simeon Highway Historic District inventory forms.
5. The individual DPR 523 forms will include information such as high-quality color and/or black-and-white photographs, historic photographs and/or drawings as appropriate, and text describing the bridge's history and character-defining features.
6. Caltrans District 5 will distribute paper and digital copies of the DPR 523 inventory forms to the Office of Historic Preservation; the California Room of the California State Library; Caltrans District 5; and Caltrans Headquarters Library and History Center as well as with all relevant consulting parties, including the Monterey County Historic Resources Review Board, the Monterey County Historical Society, the Big Sur Historical Society, the Carmel Heritage Society and the Historic Bridge Foundation on request.

C. Lesson Plans

1. Caltrans District 5 will hire qualified consultants to develop and produce a lesson plan for elementary school aged students that focuses on historic significance of the bridge designs using Scientific, Technological, Engineering, or Mathematical (STEM) activities. The materials will include visual aids and activities that demonstrate the technical significance of the open spandrel concrete arch design.
2. All components of the lesson plan will meet the *Next Generation Science Standards* (NGSS) which (in *APPENDIX I – Engineering Design in the NGSS)* encourage an emphasis on engineering design for newly developed science curricula. They will also meet the *History-Social Science Standards* as defined by the California Department of Education (CDE) to the extent they are applicable to the activities developed.
3. The lesson plan will be hosted on the interpretive website specified in stipulation II.D, which can be further used as a resource to highlight the historic significance of the bridges as important engineering achievements.
4. Caltrans will engage with the Monterey County Office of Education and the Monterey County Free Library System for distribution of the materials in order to ensure they are utilized and provide a benefit to the local community.

D. Interpretive Website

1. Caltrans District 5 will produce a website highlighting the history of the seven (7) Big Sur Arches in a manner that is accessible to the general public and provides public benefit.
2. The website will initially contain a main page focusing on the general history of the seven bridges included in the Tier 1 analysis, as well as at least one (1) page focusing on the Garrapata Creek Bridge individually. The website will also include pages to host the historic and modern photographs developed in part II.A, the historic context as

developed in part II.B, the lesson plans developed in part II.C, and additional information on the engineering and transportation history of the bridges as is deemed appropriate through future studies. The website will be structured so that it may be updated and expanded with additional pages that focus on the Big Sur Arches impacted through the future bridge rail replacement projects outlined in the current Tier 1 analysis or any other projects impacting the Big Sur Arches.

3. The website will be maintained for at least ten (10) years, and it is recognized that this time frame may be continually extended as additional projects mentioned in the Tier 1 analysis are proposed and implemented over time.

III. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

As legally mandated, human remains and related items discovered during the implementation of the terms of this Agreement and the Undertaking will be treated in accordance with the requirements of Health and Safety Code Section 7050.5(b). If pursuant to of Health and Safety Code Section 7050.5(c) the coroner determines that the human remains are or may be those of a Native American, then the discovery shall be treated in accordance with the provisions of Public Resources Code Sections 5097.98 (a)(d). Caltrans, as the landowner, shall ensure, to the extent possible, that the views of the Most Likely Descendent(s), as determined by the California Native American Heritage Commission, is taken into consideration when decisions are made about the disposition of Native American human remains and associated objects.

IV. DISCOVERIES AND UNANTICIPATED EFFECTS

If Caltrans determines after construction of the Undertaking has commenced, that either the Undertaking will affect a previously unidentified property that may be eligible for the National Register, or affect a known historic property in an unanticipated manner, Caltrans will address the discovery or unanticipated effect in accordance with 36 CFR §800.13(b)(3). Caltrans at its discretion may hereunder and pursuant to 36 CFR §800.13(c) assumes any discovered property to be eligible for inclusion in the National Register.

V. ADMINISTRATIVE PROVISIONS

A. Standards

1. **Definitions.** The definitions provided in 36 CFR § 800.16 are applicable throughout this MOA.
2. **Professional Qualifications**. Caltrans will ensure that only individuals meeting the *Secretary of the Interior's Professional Qualification Standards* (48 FR 44738-39) (PQS) in the relevant field of study carry out or review appropriateness and quality of the actions and products required by Stipulations I through IV in this MOA. However, nothing in this stipulation may be interpreted to preclude Caltrans or any agent or contractor thereof from using the properly supervised services of persons who do not meet the PQS.
3. **Documentation Standards**. Written documentation of activities prescribed by Stipulations I through IV of this MOA shall conform to *Secretary of the Interior's*

Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-44740) as well as to applicable standards and guidelines established by the SHPO.

4. **Curation and Curation Standards.** Caltrans shall ensure that, to the extent permitted under § 5097.98 and § 5097.991 of the California Public Resources Code, the materials and records resulting from the activities prescribed by this MOA are curated in accordance with 36 CFR §79.

B. Confidentiality

The MOA parties acknowledge that the historic properties covered by this MOA may be subject to the provisions of § 304 of the NHPA and § 6254.10 of the California Government Code (Public Records Act), relating to the disclosure of archaeological site information and, having so acknowledged, will ensure that all actions and documentation prescribed by this MOA are consistent with said sections.

C. Resolving Objections

1. Should any party to this MOA object at any time in writing to the manner in which the terms of this MOA are implemented, to any action carried out or proposed with respect to implementation of the MOA (other than the Undertaking itself), or to any documentation prepared in accordance with and subject to the terms of this MOA, Caltrans shall immediately notify the other MOA parties of the objection, request their comments on the objection within 15 days following receipt of Caltrans' notification, and proceed to consult with the objecting party for no more than 30 days to resolve the objection. Caltrans will honor the request of the other parties to participate in the consultation and will take any comments provided by those parties into account.
2. If the objection is resolved during the 30-day consultation period, Caltrans may proceed with the disputed action in accordance with the terms of such resolution.
3. If at the end of the 30-day consultation period, Caltrans determines that the objection cannot be resolved through such consultation, then Caltrans shall forward all documentation relevant to the objection to the ACHP, including Caltrans' proposed response to the objection, with the expectation that the ACHP will, within thirty (30) days after receipt of such documentation:
    a. Advise Caltrans that the ACHP concurs in Caltrans' proposed response to the objection, whereupon Caltrans will respond to the objection accordingly. The objection shall thereby be resolved; or
    b. Provide Caltrans with recommendations, which Caltrans will take into account in reaching a final decision regarding its response to the objection. The objection shall thereby be resolved; or
    c. Notify Caltrans that the objection will be referred for comment pursuant to 36 CFR § 800.7(c) and proceed to refer the objection and comment. Caltrans shall take the resulting comments into account in accordance with 36 CFR § 800.7(c)(4) and Section 110(1) of the NHPA. The objection shall thereby be resolved.

4. Should the ACHP not exercise one of the above options within 30 days after receipt of all pertinent documentation, Caltrans may proceed to implement its proposed response. The objection shall thereby be resolved.
5. Caltrans shall take into account any of the ACHP's recommendations or comments provided in accordance with this stipulation with reference only to the subject of the objection. Caltrans' responsibility to carry out all actions under this MOA that are not the subjects of the objection shall remain unchanged.
6. At any time during implementation of the measures stipulated in this MOA, should a member of the public raise an objection in writing pertaining to such implementation to any signatory party to this MOA, that signatory party shall immediately notify Caltrans. Caltrans shall immediately notify the other signatory parties in writing of the objection. Any signatory party may choose to comment in writing on the objection to Caltrans. Caltrans shall establish a reasonable time frame for this comment period. Caltrans shall consider the objection, and in reaching its decision, Caltrans will take all comments from the other signatory parties into account. Within 15 days following closure of the comment period, Caltrans will render a decision regarding the objection and respond to the objecting party. Caltrans will promptly notify the other signatory parties of its decision in writing, including a copy of the response to the objecting party. Caltrans' decision regarding resolution of the objection will be final. Following issuance of its final decision, Caltrans may authorize the action subject to dispute hereunder to proceed in accordance with the terms of that decision.
7. Caltrans shall provide all parties to this MOA, and the ACHP, if the ACHP has commented, and any parties that have objected pursuant to section C of this stipulation, with a copy of its final written decision regarding any objection addressed pursuant to this stipulation.
8. Caltrans may authorize any action subject to objection under this stipulation to proceed after the objection has been resolved in accordance with the terms of this stipulation.

D. Amendments

1. Any signatory party to this MOA may propose that this MOA be amended, whereupon all signatory parties shall consult for no more than 30 days to consider such amendment. The amendment will be effective on the date a copy signed by all of the original signatories is filed with the ACHP. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation E, below.
2. Attachments to this MOA may be amended through consultation as prescribed in Section B of Stipulation I or Section D of Stipulation V, as appropriate, without amending the MOA proper.

E. Termination

1. If this MOA is not amended as provided for in section D of this stipulation, or if either signatory proposes termination of this MOA for other reasons, the signatory party proposing termination shall, in writing, notify the other MOA parties, explain the

reasons for proposing termination, and consult with the other parties for at least 30 days to seek alternatives to termination. Such consultation shall not be required if Caltrans proposes termination because the Undertaking no longer meets the definition set forth in 36 CFR § 800.16(y).

2. Should such consultation result in an agreement on an alternative to termination, the signatory parties shall proceed in accordance with the terms of that agreement.
3. Should such consultation fail, the signatory party proposing termination may terminate this MOA by promptly notifying the other MOA parties in writing. Termination hereunder shall render this MOA without further force or effect.
4. If this MOA is terminated hereunder, and if Caltrans determines that the Undertaking will nonetheless proceed, then Caltrans shall comply with the requirements of 36 CFR 800.3-800.6, or request the comments of the ACHP pursuant to 36 CFR Part 800.

F. Duration of the MOA

The duration of the MOA will be five (5) years following the date of execution by the signatory parties. If Caltrans determines that this requirement cannot be met, the MOA parties will consult to reconsider its terms. Reconsideration may include continuation of the MOA as originally executed, amendment of the MOA, or termination. In the event of termination, Caltrans will comply with Section E of this Stipulation if it determines that the Undertaking will proceed notwithstanding termination of this MOA.

G. Reporting Requirements and Related Reviews

1. Caltrans shall prepare an Annual Report documenting actions carried out pursuant to this MOA. The reporting period shall commence one year from the date of execution. The Annual Report shall be distributed to all consulting parties to this MOA.
2. The Annual Report shall address the following: any scheduling changes proposed, historic property surveys and results, status of treatment and mitigation activities, ongoing and completed public education activities, any uses that are affecting or may affect the ability of the federal agency to continue to meet the terms of this MOA, any disputes and objections received, and how they were resolved, and any additional parties who have become signatory or concurring parties to this MOA in the past year.
3. Caltrans shall coordinate a meeting of the Signatories and Consulting Parties to be scheduled within ninety (90) business days of distribution of the Annual Report, or another mutually agreed upon date, to discuss activities carried out pursuant to this MOA during the preceding year and activities scheduled for the upcoming year. This meeting, should it be deemed unnecessary, may be cancelled by mutual consent of the Signatory Parties.

H. Effective Date

This MOA will take effect on the date that it has been executed by Caltrans and the SHPO.

EXECUTION of this MOA by Caltrans and the SHPO, its filing with the ACHP in accordance with 36 CFR §800.6(b)(1)(iv), and subsequent implementation of its terms, shall evidence, pursuant to 36CFR§800.6(c), that this MOA is an agreement with the ACHP for purposes of Section 110(l) of the NHPA, and shall further evidence that Caltrans has afforded the ACHP an opportunity to comment on the Undertaking and its effects on historic properties, and that Caltrans has taken into account the effects of the Undertaking on historic properties.

**MEMORANDUM OF AGREEMENT
BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE GARRAPATA CREEK BRIDGE RAIL REPLACEMENT PROJECT, MONTEREY COUNTY, CALIFORNIA**

SIGNATORY PARTY:

CALIFORNIA DEPARTMENT OF TRANSPORTATION

By Philip J. Stolarski **Date** 3/23/2021

Philip J. Stolarski
Chief, Division of Environmental Analysis

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MEMORANDUM OF AGREEMENT
BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE GARRAPATA CREEK BRIDGE RAIL REPLACEMENT PROJECT, MONTEREY COUNTY, CALIFORNIA

SIGNATORY PARTY:

CALIFORNIA OFFICE OF HISTORIC PRESERVATION

By _____ **Date 3/23/2021**_____
Julianne Polanco
State Historic Preservation Officer

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**MEMORANDUM OF AGREEMENT
BETWEEN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE GARRAPATA CREEK BRIDGE RAIL REPLACEMENT PROJECT, MONTEREY COUNTY, CALIFORNIA**

INVITED SIGNATORY:

CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 5

By _____ **Date** 03/24/2021

Timothy M. Gubbins
Director

List of Technical Studies

Air Quality, Noise, and Greenhouse Gas Memorandum

Water Quality Assessment

Natural Environment Study Minimal Impacts Tier 1 and Tier 2

Historic Property Survey Report Tier 1 and Tier 2

- Archaeological Survey Report

Hazardous Waste Reports

- Initial Site Assessment
- Asbestos and Lead-Containing Paint Survey Report

Visual Impact Assessment

Paleontology Review Memorandum

Stormwater Data Report

Climate Change Technical Study

To obtain a copy of one or more of these technical studies/reports or the Draft Environmental Impact Report, please send your request to the following email address: info-d5@dot.ca.gov

Please indicate the project name and project identifying code (under the project name on the cover of this document) and specify the technical report or document you would like a copy of. Provide your name and email address or U.S. postal service mailing address (street address, city, state and zip code).